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No. _____

In The
Supreme Court of the United States

CIAS INC.,

Petitioner,

v.

ALLIANCE GAMING CORPORATION AND BALLY GAMING, INC.,

Respondents.

On Petition for Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR WRIT OF CERTIORARI

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QUESTION PRESENTED

Whether the Federal Circuit's use of patent prosecution history statements in claim construction is so erroneously inconsistent among its own panel decisions and incompatible with its prior *en banc* decision in *Phillips* as to make it impossible for the public to know with any degree of confidence the scope of patent claims; and whether that Court's inconsistent judgment in this case should be reversed.

CORPORATE DISCLOSURE STATEMENT

There are no parent corporations or publicly held companies that hold 10% or more of CIAS Inc.'s stock.

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PETITION FOR A WRIT OF CERTIORARI

Petitioner CIAS Inc. hereby petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit.

OPINIONS BELOW

The opinion of the Court of Appeals for the Federal Circuit, dated September 27, 2007 is set forth at 504 F.3d 1356 (Fed. Cir. 2007) and in the Appendix at 1a-16a. The Federal Circuit Order denying the petition for rehearing, dated October 24, 2007 is unofficially reported at 2007 WL 4125118 and is set forth in the Appendix at 55a-56a.

The opinion of the District Court, dated March 29, 2006, is reported at 424 F. Supp. 2d 678 (S.D.N.Y. 2006) and is set forth in the Appendix at 17a-54a. The Judgment of the District Court, dated March 30, 2006 is set forth in the Appendix at 57a-58a.

STATEMENT OF JURISDICTION

The judgment of the Court of Appeals for the Federal Circuit was entered on September 27, 2007. The order denying the petition for rehearing was entered on October 24, 2007. This petition is timely under 28 U.S.C. § 2101(c) and Supreme Court Rule 13.1 because it is being filed within 90 days of the denial of rehearing. This Court's jurisdiction is invoked under 28 U.S.C. § 1254(1).

STATUTORY PROVISION INVOLVED

The statutory provision involved in this case is 35 U.S.C. § 271(a):

> Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.

STATEMENT OF THE CASE

The District Court had subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a). The Court of Appeals for the Federal Circuit had exclusive appellate jurisdiction over the District Court action pursuant to 28 U.S.C. § 1295(a)(1).

A. Background

This case raises a question of patent law important to maintaining confidence in the United States Patent system. If the public is to have confidence that it can determine the scope of a patent's claims with some reasonable degree of certainty, then there must be a level of consistency and predictability in the Federal Circuit Court of Appeals' determinations of claim constructions. The inconsistency with which the Federal Circuit applies its own rules and guidelines concerning statements made by the applicant during prosecution of a patent, however, has resulted in a distinct lack of predictability. The public is in the undesirable position of not being able to assess the

scope of a patent's claims until the Federal Circuit speaks.

This should not be so. The prosecution history of a patent is an unchanging, objective record. The determination of the consequences to claim construction of the prosecution statements made by an applicant or patent owner should be a reasonably objective undertaking. The inconsistency of the Federal Circuit's use of prosecution history statements in claim construction, however, suggests that it has been otherwise.

In 1996, in *Markman v. Westview Instruments*, 517 U.S. 370 (1996), this Court held that the construction of patent claims is a legal question for the court and not the jury. Over the next nine years, the Federal Circuit struggled to develop rules and guidelines for the claim construction process. The results were inconsistent competing rules and approaches to claim construction applied by different panels of the court. Finally, in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*), the Federal Circuit provided a common set of guidelines for claim construction. The Federal Circuit reviewed the various sources of evidence to be considered in the claim construction analysis: the words of the patent claim, the patent specification describing the invention, the prosecution history of the application for the patent and extrinsic evidence such as dictionaries, reference books and expert testimony. The Court set out a hierarchy of values or weights to be accorded evidence from each of these sources in the claim construction analysis.

The Federal Circuit first underscored the importance of the claims as "the claims themselves provide substantial guidance as to the meaning of particular claim terms." *Phillips*, 415 F.3d at 1314. Next, the Federal Circuit directed the claim construction analysis to the specification, as "[t]he claims, of course, do not stand alone. Rather, they are part of 'a fully integrated written instrument' . . . . For that reason, claims 'must be read in view of the specification, of which they are a part.'" *Id.* at 1315 (citations omitted). The Federal Circuit emphasized the specification as usually being "'single best guide to the meaning of a disputed term.'" *Id.*

With respect to the prosecution history, the *Phillips* decision stated:

> Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent. *See Lemelson v. Gen. Mills, Inc.*, 968 F.2d 1202, 1206 (Fed. Cir. 1992). Furthermore, like the specification, the prosecution history was created by the patentee in attempting to explain and obtain the patent. Yet because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes. *See Inverness Med. Switz. GmbH v. Warner Lambert Co.*, 309 F.3d 1373, 1380-82 (Fed. Cir. 2002) (the ambiguity of the prosecution history made it less relevant to claim construction); *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d

> 1573, 1580 (Fed. Cir. 1996) (the ambiguity of the prosecution history made it "unhelpful as an interpretive resource" for claim construction). Nonetheless, the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution . . . .

Phillips, 415 F.3d at 1317.

Consistent with the Guidelines of *Phillips*, Federal Circuit decisions have stated that, for prosecution statements to limit the meaning of a claim to a more narrow scope than would otherwise be given based on the claim words and the patent specification, the statements must amount to a clear and unmistakable disavowal of claim scope. *See Elbex Video, Ltd. v. Sensormatic Elec. Corp.*, 508 F.3d 1366, 2007 WL 4180138, at *4 (Fed. Cir. 2007); *Sorensen v. Int'l Trade Comm'n*, 427 F.3d 1375, 1380 (Fed. Cir. 2005). Consequently, if the applicant's statements are ambiguous, or subject to interpretation, then they will not result in surrender of subject matter so as to limit the patent's claims. *Elbex*, 2007 WL 4180138, at *6 (other statements in the prosecution made the purported disclaimer statement ambiguous, weighing against a finding of prosecution disclaimer); *Honeywell Int'l, Inc. v. Universal Avionics Sys. Corp.*, 493 F.3d 1358, 1365 (Fed. Cir. 2007) (purported disclaiming statement was subject to both parties' interpretations, creating ambiguity and precluding disclaimer).

CIAS agrees with these stated guidelines. However, while these decisions would appear to

provide adequate guidance, in actual application they have resulted in anything but consistent rulings. This has proved to be especially so in instances in which the applicant or patent owner was not discussing amendments to its claims to overcome a prior art rejection or explaining the structure or operation of the claimed invention, but rather describing prior art cited by the applicant or the Patent Examiner. The same sorts of prior art description statements have been held in some instances to limit the meaning of claims and in others to not limit them. The result is that the public is left at sea as to what a patent's claims mean unless and until one or another panel of the Federal Circuit decides how it is going to view these prosecution history statements.

Thus, what may initially appear as a straightforward, consistent claim construction approach is anything but that in actual application. Indeed, district courts and the Federal Circuit routinely read the same prosecution history statements and arrive at opposite conclusions. Out of 16 district court cases since *Phillips* specifically dealing with the issue of prosecution history disclaimer, the Federal Circuit has disagreed with the district court on that issue a total of 12 times. (See Table at 91a-93a.) While each disagreement did not necessarily result in ultimate reversal, this record shows that rather than provide guidance, the Federal Circuit's inconsistency has created a confused body of decisions. It is now extremely difficult for patent holders and the public to effectively gauge the meaning of claim terms in light of prosecution history statements.

In this case, for example, the District Court held that during reexamination of the patent-in-suit, CIAS, in describing a prior art patent system, had "implied" a particular operation of that system and that the "implication" of this description was a limitation to the CIAS patent's claims. Without explaining how such an "implied" description and "implication" of a limitation could satisfy its own "clear and unmistakable disavowal of claim scope" standard, the Federal Circuit affirmed the District Court's limiting claim construction and consequently judgment of non-infringement.

If all that is required to create a limiting claim construction is an "implication" based on a description of prior art, then patent applicants and the public as a whole are placed in an untenable position. Virtually everything an applicant might say about prior art could give rise to an "implication." Yet applicants routinely must describe or discuss prior art cited to or by the patent examiner. No one will know whether that discussion will limit the patent's claims unless and until there is litigation and the Federal Circuit speaks.

This Court addressed the role a patent's prosecution history may play in the context of prosecution history estoppel in *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997) and *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002). In *Festo* the Court addressed the effect of amendment to a patent claim during prosecution upon the scope of equivalents that may be accorded the claim in determining infringement. *Id.* at 734-42. The Court held that prosecution history

estoppel could arise from any "narrowing amendment made to satisfy any requirement of the Patent Act." *Id.* at 736.

The Court did not in *Festo* address the issue presented here – the effect on the literal meaning of claim terms of an applicant's or patent owner's statements made during prosecution.

B. The '422 Patent Invention

The '422 patent inventors have been recognized for their contributions to counterfeit detection.[1] One of the inventors, Leonard Storch, is the founder and president of petitioner CIAS.

The '422 patent issued February 1, 1994 as a continuation of an application originally filed April 18, 1986. (95a.) The patent was reexamined by the United States Patent and Trademark Office and a Reexamination Certificate issued on October 17, 2000. (137a.)

The inventors of the '422 patent faced the problem that prior inventors had faced – how to protect objects, such as paper currency, commercial paper, gambling chips, coins, and tokens against counterfeiting. (112a at col. 3, lines 42-46; 117a at col. 43, lines 50-55.) As the technical ability to counterfeit became more

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[1] *Counterfeit Deterrent Features for the Next-Generation Currency Design*, National Materials Advisory Board Commission on Engineering and Technical Systems, National Research Council, Publication NMAB-472, at 67, 85, National Academy Press (1993).

sophisticated, the prior inventions attempting to deal with counterfeiting became more complex. Thus, the prior art, as exemplified by Shoshani U.S. patent 3,833,795 ("Shoshani," 143a at col. 1, lines 8-21) and McNeight U.S. patent 4,463,250 ("McNeight," 152a at col. 5, lines 40-49), recognized that simply using a random number identification or a serial number identification on the object was not sufficient to deal with the counterfeiting problem.

Both Shoshani and McNeight recognized that something in addition to use of a serial number or random number was needed. Both disclosed additional steps to make it more difficult to counterfeit an object and to enable detection of counterfeit objects. Shoshani developed a paired number scheme. Shoshani assigned a random control number to an object's serial number. (143a at col. 1, lines 40-48, col. 2, lines 23-33.) The computer database stored the control number, associating it with the serial number to which it had been assigned. (143a-144a at col. 2, line 62–col. 3, line 4.) Both numbers were printed on the stock certificate, currency or the like. (*See, e.g.*, 141a at Fig. 1; 143a at col. 2, lines 23-27.) When the certificate or currency was presented for authentication, the database was checked to determine whether or not the control number was the correct control number associated with the serial number. (144a at col. 3, lines 5-24.) After checking, a new control number could be assigned to the serial number and placed on the object. (144a at col. 3, lines 46-51.)

The something else that McNeight developed was an identifying serial number generated using a secret algorithm and using that algorithm for authentication

purposes. McNeight stored the algorithm at each of the sites where, for example, a bank note might be presented for payment. McNeight did not maintain a database of issued identifying numbers and did not use such a database for authentication. McNeight checked a bank note by determining if the identifying serial number on the bank note conformed to the algorithm. If it did not, then the bank note would be considered counterfeit. (*See, e.g.*, 150a at col. 2, lines 28-32.) The prior art thus focused on complexity and how to "find-the-fake" in attempting to solve the counterfeiting problem.

The '422 patent inventors also recognized that something more needed to be done to deal with the counterfeiting problem. But they took a different path, one that has proved to be far more practical and secure than the paths taken by Shoshani, McNeight and others.

The '422 patent inventors recognized that complexity, making it more difficult to copy or counterfeit an object, was not the solution; nor was finding the fake. The '422 patent inventors understood that, regardless of the method of generating identifying information, counterfeiters will likely ultimately deduce the method or simply copy authorized identifying information from legitimate objects. They also recognized, however, that in doing so, a counterfeiter will almost invariably create objects that have the same identifying information as legitimate objects – duplicates. The '422 patent inventors recognized that the problem in the prior art systems could be dealt with by checking not only to ensure that identifying information on an object is

authorized information, but also *by checking for duplicates*.

Thus, the premise of the '422 system is based on detection of counterfeits by assigning to each object unique authorized information and storing each instance of the unique authorized information that has been assigned in a central database. Each time an object is presented for authentication, the system also stores the information read from that object in the central database. When an object is presented at one of the checking locations, the identifying information on it is transmitted to and checked at the central database. It is checked not only to determine if it is one of the stored instances of issued unique authorized information, but importantly, it is checked to determine whether it has been previously read from an object that has already been presented. (115a at col. 10, lines 52-67.) Two or more objects with the same information detects a duplicate and means that one or more of them is counterfeit. (118a at col. 15, lines 63-66). In this latter instance, while the system does not know which object, the first presented or the second, is the counterfeit, it detects the existence of a counterfeit object.

As the '422 inventors stated (118a at col. 15, lines 63-66):

> Security, moreover, resides in the fact that two or more [objects] with the same coded information means that one or more of them is counterfeit.

Such a system is especially useful in closed settings such as casinos, where there may be hundreds of thousands, if not millions, of objects and the technology for copying an authorized object, *e.g.*, photocopying a slot machine ticket or making a poker chip, may be readily available to counterfeiters. The '422 patent inventors counter-intuitively recognized that in such settings determining that a counterfeit is in use, *i.e.*, that there is a duplicate, is an effective counterfeit countermeasure, whether or not the system can determine which object is the counterfeit. Their counter-intuitive system is simple, yet elegant in its ability to provide security where more complex systems fail.

The claims of the Reexamination Certificate spell out this counterfeit detection system which detects counterfeits at two levels. In addition, Reexamination Certificate Claims 1, 3, 5-7 and 10-12, asserted against respondents specify that the unique authorized information associated with an object is comprised of a "detectable series." Claims 13 and 14 specify "unique randomly selected authorized information."

C. Respondent's Use Of The '422 Invention

Cashless slot machines, which could use a printed ticket rather than cash or tokens, promised great savings in management, maintenance and theft prevention. As a later patent noted, however, that promise was illusory so long as the problem of counterfeit tickets remained unsolved. Burns United States Patent 6,048,269, (158a at col. 2, lines 7-17).

The '422 patent invention solved that problem. And respondents, while rebuffing CIAS' attempts to license them, adopted the '422 patent invention to create the respondents' Ticket In Ticket out ("TITO"), SDS and SMS cashless slot machine systems accused of infringement. Hundreds of thousands of respondents' cashless TITO slot machines are now in use in casinos throughout the United States.

In the Alliance TITO systems, each ticket has imprinted on it a monetary value and a bar coded identifying number unique to each ticket. The player inserts the ticket into the slot machine ticket reader and can play the slot machine until the ticket monetary value is used up, or may stop at any time. Upon stopping, the slot machine prints out a new ticket with the player's current monetary balance and a new identifying number unique to the new ticket. That ticket can be read in a slot machine or redeemed for cash at a cashier's cage.

The cashier's cage and each slot machine are connected to a central computer. The central computer has associated with it a database. Just as in the '422 patent invention, each of the unique identifying numbers which has been generated is stored in the database. In addition, also just as in the '422 patent invention, each time a ticket is scanned by a slot machine or at a cashier's cage, the scanned identifying information is transmitted to the central computer and stored in the database.

As in the '422 patent invention, the identifying information is checked to determine if it is the same as information in the authorized information database.

If it is not, then a counterfeit is detected. And also just as in the '422 patent, the identifying information is checked to determine if it is the same identifying information as was scanned from a previous ticket and stored in the database. If it is the same, then a duplicate, a counterfeit, is detected.

Respondents have two basic versions of their TITO systems, referred to as the SDS system and the SMS system. The only difference of significance here is the form of identifying numbers used in each. In the SDS system, the identifying member is an eighteen digit number made up of a detectable series of fourteen digits, and error checking digits made up of three cycle redundancy check (CRC) digits and one check digit. (24a-25a.) The SMS system identifying number is made up of thirteen pseudo-random digits and five digits that identify the slot machine issuing the ticket. (25a.)[2]

D. The Proceedings Below

CIAS sued respondents for infringement of the '422 patent by their manufacture, use and sale of their TITO systems. After close of discovery, respondents moved for summary judgment of non-infringement, based on respondents' proposed claim constructions of,

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[2] There is a second SMS system as to which the only evidence produced by respondents was that it uses an eighteen digit pseudo-random number as the identifying member. Both the District Court and the Federal Circuit appear to have ignored this system in their decisions.

inter alia, the claim term "unique authorized information" and the claim term "randomly selected ..."

The District Court granted summary judgment of non-infringement in an opinion dated March 29, 2006, and entered judgment of non-infringement on March 30, 2006. *CIAS, Inc. v. Alliance Gaming Corp.*, 424 F. Supp. 2d 678 (S.D.N.Y. 2006). (17a; 57a). The District Court held that, based on statements made by CIAS concerning Shoshani during reexamination of the '422 patent, the term "unique authorized information" should be so construed to exclude "information other than serial information alone or randomly-selected information alone." (38a-39a.) The District Court then found that the identifying numbers in respondents' TITO systems did not use serial information alone (claims 1, 3, 5-7 and 10-12) or randomly-selected information alone (claims 13 and 14), and therefore do not infringe any of the asserted claims. (50a-54a.)

The District Court reached its limiting construction of "unique authorized information" by holding that the '422 patent applicants' description of Shoshani "implied" a particular manner of operation of Shoshani – which implication the District court conceded was contrary to the actual description in Shoshani of its operation. The District Court stated:

> Again, while this may be an accurate description of how Shoshani actually works, the question here is what the inventors disclaimed during re-examination. The inventors there characterized Shoshani differently, stating that it "teaches the *use of a pair of numbers,* and not

> either serial numbers alone or randomly-selected numbers alone." They did not state that *Shoshani used the two numbers* separately, but instead **implied** that the patent used them together, as opposed to "serial numbers alone or randomly-selected numbers alone." The inventors requested re-examination because of their failure to disclose Shoshani as prior art during the initial prosecution, and so the context of their description of Shoshani was their interest in distinguishing it from the '422 patent. With that framework in mind, **the implication of the inventors' description** is that they understood and claimed the '422 patent, in contrast to Shoshani, to use either serial numbers alone or randomly-selected numbers alone.

(35a-36a) (bold emphasis added)(footnotes omitted).

In short, the District Court limited the claim term "unique authorized information" based upon its view that the applicants had "implied" an incorrect description of Shoshani and the further "implication" that the claimed invention differed from this "implied" incorrect description.

The District Court also construed the claim term "detectable series," stating:

> Accordingly, the term "detectable series" is construed to mean "information in which a pattern, relationship, or arrangement may be detected through examination of a practical number of samples in the context in which the

> invention is used." This definition is consistent with the inventors' description in the prosecution history, including the inclusion of "sequential serial numbers" *and the exclusion of the results of "secret algorithms."*

(42a) (emphasis added).

The District Court's reference to "the exclusion of the results of 'secret algorithms'" is apparently a reference to a footnote in its opinion in which the District Court cited the '422 patent applicants' prosecution description of McNeight. (19a n.5.)

Finally, based on the disclosure of another patent by the '422 patent inventors, the district court construed the term "randomly selected" of claims 13 and 14 to refer to "true random and not pseudo-random selection." (47a.) The identifying numbers of the SMS system include pseudo-random members, not "true random" members. The District Court found that respondents' SMS TITO system does not infringe claims 13 and 14 of the '442 patent, which specify "unique randomly selected information," for this additional reason. (52a-53a).

The District Court also construed the claim term "comprised of" to be "a limiting description of composition" rather than "including but not limited to." (38a.)

The district court construed other claim terms, but they are not relevant to this Petition.

E. The Federal Circuit Court of Appeals Decision

The Federal Circuit heard argument January 12, 2007 and issued its decision September 27, 2007. *CIAS, Inc. v. Alliance Gaming Corp.*, 504 F.3d 1356 (Fed. Cir. 2007). (1a.) The Federal Circuit denied CIAS' petition for panel rehearing on October 24, 2007. (55a.)

The Federal Circuit reversed the District Court's construction of "comprised of" based on the traditional usage and meaning ascribed to "comprise" words as terms of art in patent claims, holding that "comprised of" means "including but not limited to." (7a.)

The Federal Circuit affirmed the District Court's construction of "unique authorized information" to "exclude information other than serial information alone or randomly-selected[3] information alone," and affirmed the judgment of non-infringement on that basis. The Federal Circuit stated that the "district court observed that during reexamination the inventors emphasized that the '422 invention did not

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[3] The Federal Circuit's decision concerning the meaning of "randomly-selected" is somewhat confusing. The Circuit stated that "we agree with CIAS that persons of skill in the field of computer randomization would recognize that the product thereof is most aptly understood as pseudo-random," noted that the District Court found it a "close question" and then noted that the equation was not controlling because the District Court's judgment of non-infringement is supported by its construction of "unique authorized information." (14a.)

include comparisons of pairs of numbers as in Shoshani." (12a.)

Thus, with no analysis or discussion of CIAS' reexamination statements concerning Shoshani, the Federal Circuit converted the District Court's "implied" (erroneous) description of Shoshani and the "implication" that the '422 patent inventors' claims were to serial numbers alone or randomly-selected numbers alone, into a statement that the inventors "emphasized" this supposed difference from Shoshani.

The Federal Circuit, while noting that CIAS had urged it to follow its own precedent concerning "clear and unmistakable statements of disavowal," made no attempt to explain how CIAS' statements concerning Shoshani, which even the District Court held only amounted to an implication, could meet that test.

Analysis of CIAS' reexamination statements concerning Shoshani, discussed below establish that they cannot meet it, particularly in view of the analyses made by the Federal Circuit in other cases of similar statements made during prosecution of patents.

II. CIAS' STATEMENTS WITH RESPECT TO SHOSHANI WERE NOT A DISCLAIMER THAT WOULD LIMIT UNIQUE AUTHORIZED INFORMATION TO SERIAL INFORMATION ALONE OR RANDOMLY-SELECTED INFORMATION ALONE

In its reexamination request, CIAS stated (63a-64a):

In Fig. 1, object 10 (stock certificates, checks, currency) are provided with an associated pair of numbers 11. One number of the pair 11 is a serially-selected identification number 12, and the other number of the pair is randomly-selected control number 13 (col. 2, lines 23 to 33). A master list of the associated pairs of numbers applied to objects is stored in mass memory 25 (col. 2, lines 43-45 and col. 3, lines 3-4). While recognizing the advantages that serialization can contribute to counterfeit detection, Shoshani et al. teaches away from the use of serial numbers alone, stating that: "...the use of serial numbers [alone] does not inhibit counterfeiting..." (col. 1, lines 14-35).

In Fig. 2, apparatus (now shown) feeds the object past reader 21 while reader 21 sequentially scans the objects for the pair of numbers 11 that are then stored in temporary registers 23. Comparator 24 compares pairs of numbers stored in the registers 23 with pairs of numbers stored in the mass memory 25, and discrepancies are indicated. (Col. 2, line 58 – col. 3, line 35.)

Shoshani et al. teaches the use of a pair of numbers, and not either serial numbers alone or randomly-selected numbers alone. Shoshani et al. discloses only one reader 21 in apparatus 20, with the reader and all parts of the apparatus 20 (21 to 26) being shown and described as one complete apparatus at one facility.

CIAS' statements that Shoshani "teaches away from the use of serial numbers alone, that: '...the use of serial numbers [alone] does not inhibit counterfeiting..." and "Shoshani et al. teaches the use of a pair of numbers, and not either serial numbers alone or randomly-selected numbers alone" should be understood in light of the context of the '422 claimed invention and the Shoshani disclosure. That context is that something in addition to using a serial number or a randomly-selected number must be done. In Shoshani, it is using pairs of numbers and comparing to see that one of the pair is the control number associated with the other of the pair to make counterfeiting more difficult. In the '422 patent, it is storage of information from objects previously presented, as well as storage of the unique authorized information, and checking for duplicates.

That this was the meaning and import of CIAS' statements concerning Shoshani is further confirmed by a later discussion by CIAS when equating the findings of McNeight and Shoshani in this regard. CIAS stated, "Like McNeight et al., Shoshani recognizes that "...use of serial numbers [alone] does not inhibit counterfeiting..." (col. 1, lines 14-35). (73a.)

McNeight uses authorized serial numbers. Accordingly, the authorized information of McNeight was a serial number. And CIAS equated McNeight to Shoshani in recognition that a "serial number [alone]" is not sufficient. CIAS therefore could not have, and was not, distinguishing its claimed "unique authorized information" on the grounds that it excludes information other than serial information alone or randomly-selected information alone. It was stating

what Shoshani, McNeight and the '422 patent inventors all recognized -- that something in addition to simply using a serial number or a random number is needed. That something in the '422 patent claims includes the checking of duplicates.

CIAS' statements concerning Shoshani do not amount to "a clear and unambiguous disavowal of the broad scope of the claim language." *Sorensen*, 427 F.3d at 1380. They are subject to the interpretation petitioner CIAS gave them in the District Court and the Federal Circuit. Indeed, CIAS' interpretation is consistent with the claim language, with the '422 patent specification, and with the statements in the prosecution history discussing both Shoshoni and McNeight, referred to above. It is the District Court's and Federal Circuit's interpretation of those statements which is unsustainable.

If the Federal Circuit had followed its own precedents and used the claims and specification as a guide for claim construction as expected under *Phillips* before turning to CIAS' statements in the reexamination regarding Shoshani, the inappropriateness of placing a limitation on "unique authorized information" would have been apparent. As discussed above, in *Phillips* the Federal Circuit stated that the prosecution history often "lacks the clarity of the specification" and thus is less reliable during claim construction compared to the claims and the specification. *Phillips*, 415 F.3d at 1317.

First, the language of claims 1, 3, 5-7 and 10-12 states that the identifying information is "comprised of" a "detectable series." As the Federal Circuit held in

this case, the term "comprised of" means "including but not limited to." The claim language itself therefore belies any interpretation of CIAS's statements to mean that these claims are limited to serial information alone. *See Sorensen*, 427 F.3d 1379-80; *LG Elecs., Inc. v. Bizcom Elecs., Inc.*, 453 F.3d 1364, 1373-74 (Fed. Cir. 2006); *Ventana Med. Sys., Inc. v. Biogenix Labs., Inc.*, 473 F.3d 1173, 1180 (Fed. Cir. 2006).

Second, the '422 patent discloses identifying numbers made up of parts, including numbers like respondent's SDS systems identifying number, made up of a detectable series of digits and error check digits. (122a-123a at col. 24, line 25-col. 26, line 40; 133a at col. 46, lines 40-46; 134a at col. 47, lines 1-4.) CIAS' statements about Shoshani could hardly have been disclaiming this very type of identifying number, specifically disclosed in the patent specification. *See Ventana Med. Sys., Inc.*, 473 F.3d at 1180.

Furthermore, the Federal Circuit's analysis of CIAS' statements concerning Shoshani during reexamination was limited and superficial. In contrast, in *Saunders Group, Inc. v. Comfortrac, Inc.*, the Federal Circuit undertook a rigorous analysis of the actual statements made in determining that the language of the statements did not support the interpretation offered by the defendants. 492 F.3d, 1326, 1334-35 (Fed. Cir. 2007). Similarly, in *Honeywell Int'l Inc.*, the Federal Circuit determined whether or not the alleged disclaiming statement was subject to both interpretations offered by the parties and concluded that since the statement was open to both, it could not constitute a disclaimer. 493 F.3d at 1365-66. In *Elbex Video Ltd.*, the Federal Circuit

looked to other statements in the prosecution history and determined whether or not they were consistent with the interpretation of the alleged disclaiming statement. 2007 WL 4180138, at *5. The presence of other statements conflicting with the alleged disclaimer made it too ambiguous for purposes of limiting the claims. *Id.* at *6.

Finally, to reach the District Court's and Federal Circuit's interpretation of CIAS' statements about Shoshani, one has to read those statements so that they incorrectly describe Shoshani. It strains logic to the breaking point to assume that CIAS, which was knowledgeable about anti-counterfeiting systems, would incorrectly describe Shoshani and then distinguish its claims from that incorrect description. It is no wonder the District Court could only say that it found such an incorrect description "implied" and the supposed distinction an "implication." (35a-36a.)

In short, CIAS' Shoshani statements should not have resulted in limiting the '422 patent claims to "serial information alone or randomly-selected information alone." The public, including CIAS, should have been able to rely on the claim words, the patent's specification, and a consideration of the prosecution history under the Federal Circuit's own precedential guidelines. And the result should have been that the claims are not limited by the prosecution statements about Shoshani.

III. THE LOWER COURT'S FINDINGS OF NON-INFRINGEMENT SHOULD BE REVERSED

The '422 patent claims call for unique identifying information "comprised of ... a detectable series" or "randomly-selected information."

The Federal Circuit correctly held that "comprised of" means "including but not limited to," but then held that the prosecution history required that "unique identifying information" must be "serial alone or randomly-selected alone."

When the prosecution history is correctly understood, there is no such limitation. Accordingly, respondents' SDS system, which uses an identifying member that includes a thirteen digit detectable series, infringes because it uses unique identifying information "comprised of . . . a detectable series."

The District Court's and Federal Circuit's ancillary determination that "detectable series" does not include the result of a "secret algorithm" does not change this fact, even were the final four error correction digits of the SDS identifying numbers considered a secret algorithm. The SDS identifying number which includes a 13 digit detectable series would still be "comprised of a detectable series."[4]

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[4] That determination, based upon the '422 inventor's description of McNeight, is an error in any event. What the inventors were distinguishing about McNeight was its use of a secret algorithm for testing an object's information for authenticity at the remote

Likewise, respondents' SMS system, which uses an identifying number that includes a thirteen digit pseudo-random number, infringes because it uses "unique randomly-selected authorized information." That the identifying number may also include a five

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location, as opposed in '422 patent's storing of the authorized identifying information and comparing the stored information to the object's information at a central location (89a) (emphasis added):

> The same applies to McNeight et al., which also teaches that processing between machine-read information and information generated by an algorithm be done at the remote locations rather than at a central location. See Figs. 2 and 3 and the associated text. Moreover, the claims herein also may be distinguished from McNeight et al. because McNeight et all [sic] does not teach storing the authorized serial numbers at all. Rather, McNeight et al. teaches use of an algorithm to generate the authorized serial numbers. This is risky from a security standpoint even if the algorithm were stored only at a central location because once the algorithm was either deduced or stolen, then a counterfeiter could generate all of the authorized serial numbers and counterfeit with increased impunity. Providing the algorithm to a number of portable code readers 21 only makes the security problem worse.

Similarly, CIAS noted (86a) (emphasis added):

> As to McNeight et al., that patent does not disclose storing the authorized serial numbers. Instead, McNeight et al. teaches storing a secret algorithm which generates the code markings for the articles such that one cannot deduce the algorithm from a small sample of the markings.

digit number identifying the slot machine issuing the ticket does not change that fact.

IV. CONCLUSIONS

The Federal Circuit's application of its own guidelines for consideration of prosecution history statements in claim construction has been so inconsistent as to create unacceptable uncertainty in the public. CIAS agrees with the stated guidelines requiring clear and unmistakable disavowal of claim scope. What CIAS requests of this Court is that it confirm those guidelines and, by reversing the judgment of non-infringement in this case, ensure that in the future the Federal Circuit consistently applies those guidelines.

Respectfully submitted,

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APPENDIX

APPENDIX A

United States Court of Appeals for the Federal Circuit

No. 2006-1342

[Filed September 27, 2007]

CIAS, INC.,

Plaintiff-Appellant,

v.

ALLIANCE GAMING CORPORATION and BALLY GAMING, INC.,

Defendants-Appellees.

Appealed from: United States District Court for the Southern District of New York

Robert C. Morgan, Ropes & Gray LLP, of New York, New York, argued for plaintiff-appellant. With him on the brief were A. Peter Adler and Moriah R. Agovino.

Charles M. Hart, Wolf, Block, Schorr and Solis-Cohen LLP, of Philadelphia, Pennsylvania, argued for

defendants-appellees. With him on the brief was Kenneth G. Roberts, of New York, New York.

Before NEWMAN, SCHALL, and MOORE, Circuit Judges.

NEWMAN, Circuit Judge.

CIAS, Inc. (formerly Currency Identification & Analysis Systems) filed a patent infringement suit against Alliance Gaming Corporation and its subsidiary Bally Gaming, Inc. (collectively Alliance). The patent in suit is United States Patent No. 5,283,422 (the '422 Patent), entitled "Information Transfer and Use, Particularly with Respect to Counterfeit Detection." Both CIAS and Alliance produce systems for the detection of counterfeit usage. The Alliance detection systems for tickets used in casino slot machines are known as the Slot Data System (SDS) and Slot Management System (SMS). CIAS charged that these systems infringe the '422 patent, literally or under the doctrine of equivalents. Alliance moved for summary judgment of non-infringement, on the ground that on the correct claim construction the Alliance systems do not infringe any claim of the '422 patent. The district court granted Alliance's motion, construing the relevant terms of the '422 claims in light of the accused systems. The court held that this mooted Alliance's counterclaim of unenforceability, and entered final judgment dismissing the suit in its entirety.[1]

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[1] *CIAS, Inc. v. Alliance Gaming Corp.*, 424 F. Supp.2d 678 (S.D.N.Y. 2006).

We conclude that although the district court erred in its construction of the term "comprised of," that error did not affect the construction of the substantive terms that support the judgment of non-infringement. That judgment is affirmed.

DISCUSSION

The grant of a motion for summary judgment requires that there is no reasonable view of the material facts, taking cognizance of the evidentiary standards and burdens, whereby a reasonable jury could find for the non-movant. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986); *Celotex Corp. v. Catrett*, 477 U.S. 316, 323 (1986). The district court's claim construction receives plenary review, *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998), as does the summary judgment based thereon.

The claims of the patent establish and limit the patentee's right to exclude, by "describing the outer boundaries of the invention." *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 27 n.4 (1997). The '422 patent describes and claims a system for detecting counterfeit objects such as gambling chips, labels, currency, commercial paper, and other objects. The system is a computer-directed process whereby each authentic object is assigned coded identification information, such as by a bar-code, that is recorded on the object and also stored in a machine-readable facility; then, upon presentation of the object for authentication, the computerized system compares the object's coded information with the stored

information and determines whether the object is authentic or counterfeit.

The accused Alliance systems are directed to detection of counterfeit betting tickets, as are used in so-called TITO (ticket-in-ticket-out) slot machines. Alliance argues that it is not new to detect counterfeit objects by comparing their markings, and that patentability of the CIAS '422 invention turned on the nature of the detection system, that is, the information by which authenticity is determined. Alliance states that the principal difference between its system and that of the '422 patent is that Alliance uses a "secret algorithm," which Alliance asserts was excluded from the '422 claims during examination and reexamination, in view of prior art.

Claim 1 is the broadest claim of the '422 patent, with emphases added to the terms whose construction by the district court is challenged by CIAS on this appeal. With the exception of these terms, it was established or conceded that the claims read on the Alliance systems:

> 1. A counterfeit detection system for identifying a counterfeit object from a set of similar authentic objects, each object in said set having **unique authorized information** associated therewith **comprised of machine-readable code elements coded according to a detectable series**, the system comprising:
>
> means at a first facility for storing said authorized information;
>
> means at a plurality of facilities other than said first facility for machine-reading code

elements from a similar object and providing information related to the machine-read code elements;

means coupled to receive said information related to code elements machine-read from said object for at least temporarily storing that information; and

means at said first facility for detecting counterfeits coupled to said storing means and to said means for temporarily storing, said detecting means including a computer programmed to detect a counterfeit from information in said storing means at said first facility and from information received by said means for temporarily storing when information related to code elements machine read from a similar object is different from said authorized information; and

means for detecting when information relating to said code elements read from a similar object is the same as information previously read from a similar object, whereby a counterfeit may be detected.

Claim 13 was also at issue:

13. A counterfeit detection system for identifying a counterfeit object from a set of similar objects, each object in said set having **unique randomly selected authorized information** associated therewith **comprised of** machine-readable code elements, the system comprising [as in claim 1].

The district court had determined that the resolution of Alliance's motion for summary judgment required construction of several claim terms, *viz.*, "unique authorized information," "comprised of," "machine-readable code elements," "detectable series," and "randomly selected." CIAS appeals only the construction of "unique authorized information," "comprised of," and "randomly selected."

Patent claims are construed as they would be understood by persons experienced in the field of the invention, on review of the patentee's description of the invention in the specification and the proceedings in the Patent and Trademark Office. *See generally Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*) (claims are construed in light of the specification and the prosecution history).

"Comprised of"

The district court found that the meaning of "comprised of" has not been clearly resolved in patent-specific precedent, and therefore the court held that the "ordinary and customary meaning" should be used. The court ruled that "comprised of" does not have the same open-ended meaning as "comprising," which also appears in claim 1, and that "comprised of" should be construed as a closed-end term that excludes the presence of all elements beyond those presented in the "comprised of" clause. Thus the court defined "comprised of" as "a limiting description of composition," reasoning that "[t]his construction preserves the distinction between 'comprised of' and 'comprising,' the latter of which in fact is a patent term of art when used in a transitional phrase . . . ."

We conclude that this ruling is not correct. Although "comprised of" is not used as regularly as "comprising," and "comprised of" is sometimes used other than as a "transition phrase," nonetheless it partakes of long-standing recognition as an open-ended term. *See generally* 3 *Chisum on Patents* '8.06[1][b], at 8-180-82 (2007) (claims usually are structured with a preamble, a "transition phrase," and the elements or steps that are necessary to the right to exclude). The usual and generally consistent meaning of "comprised of," when it is used as a transition phrase, is, like "comprising," that the ensuing elements or steps are not limiting. The conventional usage of "comprising" generally also applies to "comprised of."

Alliance argues that several judicial decisions have used "comprised of" to mean "consists of." However, these rare usages do not remove from "comprised of" its conventional meaning when used as a transition term. The only patent case that illustrates this casual usage appears to be *Glaxo Grp. Ltd. v. Apotex, Inc.*, 376 F.3d 1339, 1343 (Fed. Cir. 2004), where the invention was a "highly pure amorphous form of CA [cefuroxime]," and the opinion described the accused product as "an amorphous 'co-precipitate' comprised of 90% CA, 9% sorbitol, and 1% zinc chloride by mass." This usage of "comprised of" was not as a claim transition term, but was the court's description of the defendant's product; there was no issue of whether "comprised of" was a limiting term in patent claim style. Similarly, in *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 346 (1961) the Court stated: "The decisions of this Court require the conclusion that reconstruction of a patented entity,

comprised of unpatented elements, is limited to such a true reconstruction of the entity . . ."; this linguistic usage is not concerned with claim drafting; and, if anything, it is open-ended and non-limiting.

The other cases to which Alliance directs us are not patent cases, and the usage is simply as descriptive text. An example is *Admiral Fin. Corp. v. United States*, 329 F.3d 1372, 1377 (Fed. Cir. 2003), where the court wrote that "Admiral . . . seek[s] total restitution in the amount of $14,395,075, comprised of $11,072,075, representing capital contributions to Haven, and $3,323,000, representing the amount that Admiral claims it saved the government." Similarly in *Nissho Iwai Am. Corp. v. United States*, 982 F.2d 505, 506 n.1 (Fed. Cir. 1992) the court explained that: "The parties estimated that the cars would be comprised of 57.45% Japanese-made components and 42.55% American-made components." These cases raise no issue of the conventional patent claim meaning of "comprised of."

In the patent claim context the term "comprising" is well understood to mean "including but not limited to." In *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 811 (Fed. Cir. 1999) the court explained that patent claims "use the signal 'comprising,' which is generally understood to signify that the claims do not exclude the presence in the accused device or method of factors in addition to those explicitly recited." In *Georgia-Pacific Corp. v. United States Gypsum Co.*, 195 F.3d 1322, 1327-28 (Fed. Cir. 1999) the court explained that "the terms 'comprise' and 'consist' have different meanings; . . . 'comprising' . . . is inclusive or open-ended and does not exclude additional, unrecited

elements or method steps . . . . From these definitions it is clear that 'comprise' is broader than 'consist.'" Similarly, our predecessor court explained that this usage of "comprising" also embraces "comprises" and "which comprises." *Application of James F. Hunter*, 288 F.2d 930 (CCPA 1961) (the term "comprises" does not limit the claim to the steps that are listed).

The contrast, in patent lexicography, is with "consisting of," not with variations of "comprises." It is equally well understood in patent usage that "consisting of" is closed-ended and conveys limitation and exclusion. *See Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1331 (Fed. Cir. 2004) ("'consisting of' is a term of patent convention meaning that the claimed invention contains only what is expressly set forth in the claim . . . [however] it does not limit aspects unrelated to the invention"); *In re Gray*, 53 F.2d 520 (CCPA 1931) (the use of the claim term "consists" is limited to the claim's enumerated alloy metals without other elements, unlike the term "comprising" which permits the inclusion of other metals than those claimed"). Robert A. Faber, *Landis on Mechanics of Patent Claim Drafting* '2:5, 2-15 (5th ed. 2006) also elaborates that "[o]ther words, less often used, have been given the same meaning in patent claim interpretation as 'comprising': 'including,' 'having,' 'containing,' and even 'wherein.'"

District court cases illustrate this routine construction of "comprised of" in the same way as "comprising," as meaning "including but not limited to." *E.g.*, *SKW Americas v. Euclid Chem. Co.*, 231 F. Supp.2d 626, 637 (N.D. Ohio 2002) ("Because the hydraulic cement mix is 'comprised of' the four

elements listed . . . it may include other elements as well."); *B.F. Goodrich Flight Sys., Inc. v. Insight Instruments Corp.*, 22 USPQ2d 1832, 1840, 1992 WL 193112, at *9 (S.D. Ohio Feb. 25, 1992) ("Use of the term 'comprised' renders this claim an 'open' claim which will read on devices which merely add additional elements or steps."), *aff'd*, 991 F.2d 810 (Fed. Cir. 1993) (Table); *Univ. of Fla. Research Found., Inc. v. Orthovita, Inc.*, No. 1:96-CV-82-MMP, 1998 WL 34007129 (N.D. Fla. Apr. 20, 1998) ("comprised of" is broader than "consisting essentially of" when used in patent claims).

These cases reflect the general understanding and usage of "comprised of" in patent convention as having the same meaning as "comprising." For patent claims the distinction between "comprising" and "consisting" is established, along with the meaning of "comprised of" as related to "comprising," not "consisting of." Correctly construed, "comprised of" does not of itself exclude the possible presence of additional elements or steps.

Applying an incorrect construction of "comprised of," the district court ruled that "unique authorized information . . . comprised of machine-readable code elements coded according to a detectable series" is limited to coding by a detectable series, and that since the Alliance code systems include a "secret" series along with a detectable series, the limit imposed by "comprised of" bars infringement. On the correct construction of "comprised of," this reasoning does not support the court's ruling as to "secret" series. However, as we shall discuss, the prior art and prosecution history served to limit the scope of "unique

authorized information" to a "detectable series" and to exclude a series that included "secret" information.

"Unique Authorized Information"

The district court construed "unique authorized information" as meaning "information associated with each object, unique to that object and authorized by the '422 patent's system, but excluding information other than serial information alone or randomly-selected information alone." Taking cognizance of Alliance's accused systems and drawing on the prosecution history, the district court ruled that "unique authorized information" excluded a combination of serial and randomly-selected information. The district court held, and CIAS had conceded, that "[s]ince part of the SDS eTicket identification number is not a detectable series, the entire numbers are not a detectable series, and so that SDS series does not include that element." CIAS argues that this does not avoid infringement, on the correct construction of "unique authorized information."

CIAS argues that "unique authorized information" includes "multi-digit identifying numbers unique to a [gaming] ticket," including data such as associated pairs or sets containing pseudo-random computer-generated numbers. Alliance points out that such associated pairs were described in a patent to Shoshani, U.S. Patent No. 3,833,795, that CIAS presented during reexamination of the '422 patent. CIAS argues that the claims were not rejected on Shoshani, and that during reexamination the inventors explained that "Shoshani, like Simjian,

applies to a set or an associated pair of numbers . . . one number of the pair is a serially-selected identification number . . . . The other number of the pair is a randomly-selected control number . . . ."

The district court observed that during reexamination the inventors emphasized that the '422 invention did not include comparison of pairs of numbers as in Shoshani. Although CIAS stresses that there was no rejection based on Shoshani, and thus no amendments were made or needed, this does not negate the arguments made during reexamination in order to distinguish Shoshani. We agree with the district court that the reexamination recharacterization of Shoshani requires the construction that the '422 claims exclude information other than serial information alone or randomly-selected information alone.

During reexamination the inventors also addressed the previously cited reference to McNeight, U.S. Patent No. 4,463,250 entitled "Method and Apparatus for Use Against Counterfeiting." McNeight describes a system that detects counterfeit mass-produced articles such as currency notes, drivers licenses, passports, share bonds, tickets for sporting events, etc., according to a detectable series and through the use of a secret algorithm. Upon amendment of the '422 claims during the original prosecution, the CIAS inventors had explained to the examiner: "[T]he claims herein may be distinguished from McNeight et al. [who teach] use of an algorithm . . . . This is risky from a security standpoint . . . because once the algorithm was either deduced or stolen, then a counterfeiter could . . . counterfeit with increased impunity." The '422

inventors thereby distinguished McNeight, explaining that the '422 patent's authorized information is "not generated by an algorithm."

Applying the positions taken during the '422 examination and reexamination, the district court construed "randomly selected" in claim 13 to mean "true random" numbers, that is, numbers "without any pattern or predictability whatsoever," rather than "pseudo-random, which is apparent randomness that has been generated purposefully, as by a computer algorithm or other program." The court reasoned that the scope of the patent was voluntarily narrowed, in light of McNeight and Shoshani, to exclude the use of solely serial information or solely randomly-selected information.

CIAS argues that it did not disavow "multi-part" numbers during reexamination, and that the statements made during reexamination were not disclaimers. CIAS points out that to constitute a disclaimer, any statements made during the patent's prosecution require "clear and unmistakable statements of disavowal" of the specific claim interpretation at issue, quoting *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1368 (Fed. Cir. 2003). CIAS contends that no clear and unmistakable disavowal occurred in the '422 patent's prosecution, and that the additional reference of Shoshani presented for reexamination was merely cumulative of the prior art previously of record. CIAS states that its discussion of Shoshani and McNeight did not limit any claim or disavow any subject matter.

The district court held that the inventors, by limiting the '422 claims to a counterfeit detection system relying on a "detectable series," had disavowed use of a secret algorithm. The court held that this precluded now reading the claims on the accused SDS systems, which use a secret algorithm. The court also concluded that the reexamined claims now excluded systems that employ an identification number that is neither serial nor randomly-selected information alone.

The district court ruled that "randomly selected" can mean only "true random" numbers, and excludes pseudo-random. In construing this term the court looked first to the patent document, and found that the '422 specification did not elaborate on the meaning of this term. The court examined several prior art references and a CIAS sibling patent to reach its construction of this term. It was generally undisputed at trial that the usual computer algorithm generates only pseudo-random numbers. We agree with CIAS that persons of skill in the field of computer randomization would recognize that the product thereof is most aptly understood as pseudo-random; CIAS conceded that another of its patents shows generation of true random numbers. The district court, receiving conflicting opinions on this point, deemed it a "close question." However, it is not controlling of the question of infringement, for the district court's judgment of non-infringement is supported alone by the court's construction of "unique authorized information."

We discern no error in the district court's construction of the scope of the '422 claims. Although

the usage "comprised of" does not of itself exclude the presence of additional elements or steps, this does not permit recovery of claim scope that was limited during prosecution. The district court was correct that the amendments and arguments during examination and reexamination bar interpretation of "unique randomly selected authorized information" to include the accused systems.

The Doctrine of Equivalents

On appeal, CIAS states that the district court erred in failing to consider the accused systems' infringement under the doctrine of equivalents, for CIAS had charged that the SDS system infringed claims 1, 3, 5-7, and 9-12, and the SMS system infringed claims 13 and 14, under the doctrine of equivalents. The district court ruled that the accused systems did not infringe under the doctrine of equivalents, but did not present a separate explanation of this ruling.

In its opinion, the district court explained in detail that the '422 claims had been limited during examination and reexamination. The subject matter that was relinquished is material to the infringement inquiry under the doctrine of equivalents, for the accused systems are reasonably viewed as within the literal scope of the original CIAS claims before they were limited by amendment and argument. As held in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 733 (2002), when the accused subject matter is within the range of surrendered subject matter, the patentee must satisfy certain criteria in order to reach that subject matter through

equivalency; the patentee must show that the asserted equivalent either was unforeseeable, or that the rationale underlying the surrender had only a tangential relation to the equivalent in question, or some other reason why the patentee could not reasonably have described and continued to claim the substitute in question. The district court, in its disposition of the asserted equivalency, may have recognized, as Alliance argued, that CIAS could not meet this burden. On the evidence before the district court that the Alliance series and other differences from the '422 claims were excluded from the claims based on prior art that was distinguished during prosecution, reversible error does not arise from the district court's inclusion of the doctrine of equivalents in its summary judgment of noninfringement.

AFFIRMED

APPENDIX B

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

03 Civ. 3064 (LAK)

[Filed March 29, 2006]

CIAS, INC.,

Plaintiff,

-against-

ALLIANCE GAMING CORPORATION and BALLY GAMING, INC.,

Defendants.

MEMORANDUM OPINION

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LEWIS A. KAPLAN, *District Judge*.

This patent infringement case involves a patent on a system for detecting counterfeit items that is used in tickets used for playing cashless slot machines in casinos, among other things. The matter is before the Court on defendant's motion for summary judgment dismissing the complaint on the ground that its accused systems do not infringe plaintiff's patent.

I. Facts

A. The Parties

Plaintiff CIAS, Inc. ("CIAS") owns U.S. Patent No. 5,283,422 (the "'422 patent"), which teaches a system of counterfeit detection.[1]

Defendants are Alliance Gaming Corporation and its subsidiary, Bally Gaming, Inc. (collectively, "Alliance").[2] It is a "leading manufacturer of systems and machines used in the gaming industry."[3] Among other things, it manufactures and sells two systems

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[1] *See* Joint Pre-Trial Order, Stipulated Facts ("JPTO") ¶¶ 1, 7.

[2] *See id.* ¶¶ 2, 3.

[3] Alliance's Local Rule 56.1 Statement of Material Facts ("Alliance 56.1") ¶ 8.

that manage all aspects of a casino's slot machines, including accounting and management functions.[4]

B. The '422 Patent

After overcoming several rejections based on the cited prior art,[5] the '422 patent issued on February 1,

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[4] *See id.* ¶ 9; CIAS's Local Rule 56.1 Statement of Material Facts ("CIAS 56.1") ¶ 8.

[5] *See* Roberts Decl., Ex. F ("'422 File History"), Tabs 7-10. In particular, the inventors addressed U.S. Patent No. 4,463,250 ("McNeight") as not recognizing that

> "a counterfeit detection system may utilize information coded according to a *detectable series*, such as sequential serial numbers. McNeight [ ] discloses a method for detecting counterfeits in which articles . . . are coded in accordance with a *secret algorithm*, and in which counterfeits are detected by detecting codes which do not conform to the algorithm . . . McNeight [ ] is premised on the use of a secret algorithm . . . and does not recognize that a counterfeit detection system could use sequential serial numbers. . . . McNeight's authorized numbers conform to a secret algorithm and are different from a detectable series such as sequential serial numbers."

Id. at Tab 8 (emphasis in original). The inventors described McNeight further as teaching a system under which its "authorized numbers conform to a secret algorithm and are different from randomly selected information. There is no suggestion in McNeight [ ] to utilize *randomly-selected* authorized information." *Id.* (emphasis in original).

1994.[6] In connection with infringement litigation unrelated to this case, CIAS requested re-examination on March 30, 1999.[7] A re-examination certificate was issued on October 17, 2000, confirming patentability after amendment of Claim 1 by combining it with the original Claim 8.[8]

The parties dispute vigorously the scope and meaning of the '422 patent's claims, as addressed below. It is undisputed, however, that the '422 patent describes a counterfeit detection system.[9] The system detects counterfeits by assigning identifying information to a finite number of objects and storing that information.[10] When an object later is presented for authentication, the system compares the object's identifying information to the stored data.[11] If the identifying information either does not appear in the stored data or previously has been presented for

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[6] *See* JPTO ¶ 5.

[7] *See id.* ¶ 6; CIAS 56.1 ¶ 28.

[8] *See* JPTO ¶ 6; CIAS 56.1 ¶ 29. During re-examination, the inventors' stated reason for distinguishing U.S. Patent No. 3,833,795 ("Shoshani") was that Shoshani "teaches the use of a pair of numbers, and not either serial numbers alone or randomly-selected numbers alone." Roberts Decl., Ex. K ("Request for Re-Examination") at 4.

[9] *See generally* Roberts Decl., Ex. B ("'422 Patent").

[10] *See id.*

[11] *See id.*

authentication, the system determines that the object is counterfeit.[12]

Claim 1 of the '422 patent reads in full:

"A counterfeit detection system for identifying a counterfeit object from a set of similar authentic objects, each object in said set having unique authorized information associated therewith comprised of machine-readable code elements coded according to a detectable series, the system comprising:

means at a first facility for storing said authorized information;

means at a plurality of facilities other than said first facility for machine-reading code elements from a similar object and providing information related to the machine-read code elements;

means coupled to receive said information related to said code elements machine-read from aid object for at least temporarily storing that information; and

means at said first facility for detecting counterfeits coupled to said storing means and to said means for temporarily storing, said detecting means including a computer programmed to detect a counterfeit from information in said storing means at said first

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[12] *See id.*

> facility and from information received by said means for temporarily storing when information related to code elements machine read from a similar object is different from said authorized information."[13]

Claims 2 through 10 are dependent on Claim 1 and describe various permutations of the system.[14] Claims 11 and 12 describe systems similar to that set out in Claim 1, but with different means of collecting and comparing the unique authorized information.[15] Claims 13 and 14 describe similar systems, but the information associated with each object is "unique randomly selected authorized information [ ] comprised of machine-readable code elements."[16] Finally, Claims 15 and 16 describe a method for designating objects as authorized objects by

> "randomly selecting m sets of unique authorized information from n sets of unique information, said n sets of unique information being a non-random series and m being substantially less than n, such that no given set of said m sets of unique authorized information is deducible from all or part of the remaining of said m sets of authorized information, n and m being integers and n being greater than one; storing

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[13] *Id.* at 49:41-66.

[14] *See id.* at 49:67-50:33.

[15] *See id.* at 50:34-51:14.

[16] *Id.* at 51:17-19, 52:1-3.

said m sets of authorized information; and applying said m sets of authorized information to respective authorized objects in a machine readable form."[17]

C. Alliance's Systems

Alliance offers two products, called the Slot Data System ("SDS") and the Slot Management System ("SMS"),[18] that manage "all aspects of a casino's slot machines, including accounting and management functions."[19] They allow players to use "cashless" slot machines by inserting and retrieving electronically-generated tickets redeemable for cash.[20] These paper tickets, called eTickets,[21] are the size of a dollar bill and imprinted with an 18-digit identification number, which appears both numerically and in a standard bar code format.[22] Slot machines read

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[17] *Id.* at 52:25-39. Claim 16 describes the "method according to claim 15 wherein said n sets of unique information are a detectable series." *Id.* at 52:40-41. CIAS does not allege that Alliance's systems infringe Claims 15 or 16.

[18] *See* Alliance 56.1 ¶ 10; CIAS 56.1 ¶ 10.

[19] Alliance 56.1 ¶ 9; CIAS 56.1 ¶ 9.

[20] *See* Alliance 56.1 ¶¶ 9, 10; CIAS 56.1 ¶¶ 9, 10.

[21] *See* Alliance 56.1 ¶ 11; CIAS 56.1 ¶ 11.

[22] *See* Alliance 56.1 ¶ 14; CIAS 56.1 ¶ 14.

eTickets with "bill validators," equipment that includes standard bar code readers.[23]

While the SDS and SMS systems each produce an 18-digit identification number for every eTicket, they do so in different manners. The SDS system produces a number comprised of five subparts:[24]

Ticket Type	1 digit identifying whether thee Ticket was printed at a slot machine or casino cashier station.
Property Identifier	3 digits, identifying the casino.
Machine Number	5 digits, identifying the machineor cashier station that printed thee Ticket.
Ticket Number	5 digit serial number for the individual eTicket, ranging from 00001 to 99999.

[23] *See* Alliance 56.1 ¶¶ 14, 17; CIAS 56.1 ¶¶ 14, 17.

[24] *See* Alliance 56.1 ¶ 20; CIAS 56.1 ¶ 20.

Unique Ticket Identifier	4 digits, generated by a secret algorithm using the preceding numbers.

In contrast, an 18-digit identification number produced by the SMS system[25] is comprised of five digits that identify the machine issuing the eTicket and thirteen digits that are generated by a secret algorithm, that operates on a machine identification number, casino identification number, the date, and the time as its input data.[26]

CIAS contends that the SDS system infringes Claims 1 (as amended), 3, 5-7, and 9-12 and that the SMS system infringes Claims 13 and 14.

II. The Standard

Summary judgment is appropriate if there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law.[27] The moving party has the burden of demonstrating the absence of a genuine issue of material fact,[28] and the Court must

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[25] The SMS system is known also as the ACSC system. JPTO ¶ 8.

[26] *See* Alliance 56.1 ¶ 23; CIAS 56.1 ¶ 23.

[27] *See* FED. R. CIV. P. 56(c); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986); *White v. ABCO Eng'g Corp.*, 221 F.3d 293, 300 (2d Cir. 2000).

[28] *See Adickes v. S.H. Kress & Co.*, 398 U.S. 144, 157 (1970).

view the facts in the light most favorable to the nonmoving party.[29] Where the burden of proof at trial would fall on the nonmoving party, it ordinarily is sufficient for the movant to point to a lack of evidence on an essential element of the nonmovant's claim.[30] In that event, the nonmoving party must come forward with admissible evidence[31] sufficient to raise a genuine issue of fact for trial or suffer an adverse judgment.[32]

When a party moves for summary judgment of non-infringement, the court first determines the meaning and scope of the claims as a matter of law and then compares the construed claims to the allegedly infringing product.[33] A court may, but need

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[29] *See United States v. Diebold, Inc.*, 369 U.S. 654, 655 (1962); *Hetchkop v. Woodlawn at Grassmere, Inc.*, 116 F.3d 28, 33 (2d Cir. 1997).

[30] *See Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23 (1986); *Virgin Atl. Airways Ltd. v. British Airways PLC*, 257 F.3d 256, 273 (2d Cir. 2001).

[31] *See, e.g., Nora Beverages, Inc. v. Perrier Group of Am., Inc.*, 269 F.3d 114, 123-24 (2d Cir. 2001).

[32] *See, e.g., Nebraska v. Wyoming*, 507 U.S. 584, 590 (1993); *Goenaga v. March of Dimes Birth Defects Found.*, 51 F.3d 14, 18 (2d Cir. 1995).

[33] *See, e.g., Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370, 376 (1996).

not, conduct a *Markman* hearing to determine the scope of the claims.[34]

III. Claim Construction

A. Applicable Law

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'"[35] Claim terms in a patent normally have their ordinary and customary meanings as understood by those skilled in the relevant art at the time of invention.[36] The understanding of a claim term by one of ordinary skill in the art "provides an objective baseline from which to begin claim interpretation."[37]

The construction inquiry does not take place in a vacuum, as the reading is deemed to take place "not only in the context of the particular claim in which the disputed term appears, but in the context of the entire

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[34] *See, e.g., EMI Group North America, Inc. v. Intel Corp.*, 157 F.3d 887, 891 (Fed. Cir. 1998); *cf. Keen, Inc. v. InfoRocket.com*, No. 01 Civ. 8226 (LAP), 2002 WL 1732359 (July 26, 2002).

[35] *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*) (internal citations omitted).

[36] *Id.* at 1313; *see also, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002).

[37] *Phillips*, 415 F.3d at 1313.

patent, including the specification."[38] Although in some instances the meaning of claim language as understood by a person of ordinary skill in the art may be readily apparent to lay courts, in other cases the analysis may not be as straightforward, as when a patentee uses a term idiosyncratically.[39] In such instances, the court looks to "those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean."[40] Those sources include "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art."[41]

Of these sources, the Federal Circuit and its predecessors have "long emphasized the importance of the specification in claim construction."[42] Because the specification's statutory role is to describe the claimed invention in "full, clear, concise, and exact terms,"[43] it is "the single best guide to the meaning of a disputed term," always highly relevant, and "[u]sually [ ]

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[38] *Id.*

[39] *Id.* at 1314.

[40] *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004).

[41] *Phillips*, 415 F.3d at 1314 (quoting *Innova*, 381 F.3d at 1116).

[42] *Id.* at 1315.

[43] 35 U.S.C. § 112.

dispositive."[44] Thus, if a specification reveals a particular definition given to a claim term that differs from its usual meaning, the inventor's definition controls.[45] Similarly, if a specification includes "an intentional disclaimer, or disavowal, of claim scope," that too is dispositive.[46]

Another intrinsic source that a court should consider is the patent's prosecution history, which is the "complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent."[47] The prosecution history can be helpful evidence of how the PTO and the inventor understood the patent.[48] On the other hand, because the prosecution history reflects negotiations between the PTO and inventor, it may lack the specification's clarity and therefore be less useful for

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[44] *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

[45] *Phillips*, 415 F.3d at 1315; *see also Vitronics*, 90 F.3d at 1582 (the specification "acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.").

[46] *Phillips*, 415 F.3d at 1316.

[47] *Id.* at 1317.

[48] *See id.; see also, e.g., Lemelson v. Gen. Mills, Inc.*, 968 F.2d 1202, 1206 (Fed. Cir. 1992).

claim construction.[49] All the same, it "can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be."[50]

Although intrinsic evidence is primary in claim construction, a court may rely also upon extrinsic evidence to "shed useful light on the relevant art."[51] This includes expert and inventor testimony, dictionaries, and treatises.[52] Expert testimony can be useful in a variety of circumstances, such as

> "to provide background on the technology at issue, to explain how an invention works, to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field."[53]

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[49] *See Phillips*, 415 F.3d at 1317; *see also, e.g., Inverness Med. Switz. GmbH v. Warner Lambert Co.*, 309 F.3d 1373, 1380-82 (Fed. Cir. 2002).

[50] *Phillips*, 415 F.3d at 1317.

[51] *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004) (internal citations omitted).

[52] *See Phillips*, 415 F.3d at 1317-18.

[53] *Id.* at 1318.

A court should take care not to rely overmuch on extrinsic evidence, as by its nature it has less of a connection to the specific patent at issue than does intrinsic evidence.[54] Moreover, extrinsic evidence typically is assembled in litigation, when a party can be expected to select evidence that best supports its case and "leav[e] the court with the considerable task of filtering the useful extrinsic evidence from the fluff."[55] Accordingly, a court may consider extrinsic evidence in claim construction, but should keep its potential flaws in mind and measure it against the yardstick of the intrinsic evidence.[56]

Finally, as the Federal Circuit recently noted, "there is no magic formula or catechism for conducting claim construction."[57] The touchstone is how a person of ordinary skill in the art would understand the claim terms, but a court is not constrained to follow a precise choreographed sequence in conducting its analysis.[58]

B. The Terms of the '422 Patent

To resolve Alliance's motion for summary judgment, it is necessary to construe the terms "unique authorized information," "machine-readable

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[54] *See id.*

[55] *Id.*

[56] *Id.* at 1319.

[57] *Id.* at 1324.

[58] *See id.*

code elements," "detectable series," and "randomly selected" as used in the '422 patent.

1. Unique Authorized Information

Claims 1-12, 15 and 16 all refer to "unique authorized information" associated with individual objects.[59] As CIAS concedes,[60] neither the claims nor the specification define the term explicitly.[61]

CIAS argues that there was no need to define the term, as "unique authorized information" was "intended to and does carry its common and ordinary meaning. The information associated with each object is unique to that object, and it is information that has been authorized by the system."[62] In other words, "unique authorized information" incorporates any data so designated by the counterfeit detection system-even "a picture of Mickey Mouse with a moustache."[63]

Alliance makes two arguments in favor of a more limited definition. It first contends that the specification requires that the term be construed as referring "merely to a small 'authorized' subset of a

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[59] *See* '422 Patent at 49:41-51:14, 52:25-41. Claims 13 and 14 refer to "unique randomly selected information." *See id.* at 51:15-52:24.

[60] *See* CIAS Mem. at 14.

[61] *See generally* '422 Patent.

[62] CIAS Mem. at 14.

[63] Tr., Oct. 15, 2004, 19:10-11.

larger set of 'valid' numbers."[64] As a matter of logic, the "unique authorized information" selected by the system for a given set of objects will be a subset of all *possible* information that could be so selected. There is no support in the specification, however, for the initial selection of a set of "valid" information from which the "unique authorized information" is then distilled. Alliance points to one section of the specification that, in describing the particular embodiment of casino chips, suggests that casinos, as a practical matter, will need to reserve some coded information for future use.[65] This description of the potential pragmatic needs of one embodiment of the invention, however, cannot be read as a limitation on the claim term itself.[66]

Alliance next contends that the inventors disclaimed multi-part information from inclusion in "unique authorized information" during re-examination of the '422 patent. During re-examination, the inventors cited Shoshani, another counterfeit detection patent, as prior art that had not been cited during initial prosecution.[67] The inventors described Shoshani as "teach[ing] away from the use of serial numbers alone [because they provide inadequate counterfeit protection]."[68] Instead,

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[64] Alliance Mem. at 13-14.

[65] *See* '422 Patent at 7:36-55, 15:57-63.

[66] *See Phillips*, 415 F.3d at 1323-24.

[67] *See* Request for Re-Examination at 4.

[68] *Id.*

according to the '422 inventors, Shoshani provides objects with

> "an associated pair of numbers [ ]. One number of the pair [ ] is a serially-selected identification number [ ], and the other number of the pair is a randomly-selected control number [ ]. A master list of the associated pairs of numbers applied to objects is stored in mass memory . . . [When an object's pair of numbers is scanned, the device compares that pair with] pairs of numbers stored in the mass memory, and discrepancies are indicated . . . Shoshani [ ] teaches the use of a pair of numbers, and not either serial numbers alone or randomly-selected numbers alone."[69]

Alliance argues that by distinguishing Shoshani in this way-by the focus on its use of a pair of numbers as opposed to a serial number or a random number alone-the '422 inventors disclaimed multi-part information from "unique authorized information."

CIAS responds that Shoshani actually is distinguishable as prior art because "it does not detect when information relating to code elements machine read from a similar object is the same as information previously read from a similar object."[70] This argument, however, is misplaced, as the issue is not whether the '422 patent should have issued over

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[69] *Id.*

[70] CIAS Mem. at 17.

Shoshani on re-examination, but rather whether the inventors disclaimed multi-part numbers from their patent. Other possible differences between the '422 patent and Shoshani that were not discussed by the inventors at that time are therefore of no present moment.

CIAS argues further that Shoshani does not treat the pair of numbers as a unit, but as separate numbers: "To check authenticity, it first looks at the serial number. Then it checks the control number to see if it matches the corresponding control number for that serial number stored in a computer. Accordingly, the two numbers in Shoshani are used separately and not together as either a detectable series or a random number."[71]

Again, while this may be an accurate description of how Shoshani actually works, the question here is what the inventors disclaimed during re-examination. The inventors there characterized Shoshani differently, stating that it "teaches the *use of a pair of numbers,* and not either serial numbers alone or randomly-selected numbers alone."[72] They did not state that Shoshani used the two numbers separately, but instead implied that the patent used them together, as opposed to "serial numbers alone or randomly-selected numbers alone." The inventors requested re-examination because of their failure to disclose Shoshani as prior art during the initial

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[71] *Id.* at 9.

[72] Request for Re-Examination at 4 (emphasis added).

prosecution,[73] and so the context of their description of Shoshani was their interest in distinguishing it from the '422 patent. With that framework in mind, the implication of the inventors' description is that they understood and claimed the '422 patent, in contrast to Shoshani, to use either serial numbers alone or randomly-selected numbers alone.[74]

Despite being secondary to the specification, prosecution history can demonstrate "how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be."[75] A competitor, "reading the prosecution history, would reasonably conclude" that the '422 inventors had restricted their claims to information of a single type and thus had given up multi-type information.[76] On the basis of the re-examination statements of the inventors in distinguishing Shoshani, therefore, the term "unique authorized information" excludes information other than serial

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[73] *See id.* at 2-4.

[74] *See Phillips*, 415 F.3d at 1317 ("Like the specification, the prosecution history provides evidence of how the [ ] inventor understood the patent. Furthermore . . . the prosecution history was created by the patentee in attempting to explain and obtain the patent.").

[75] *Id.*

[76] *Haynes Int'l v. Jessop Steel Co.*, 8 F.3d 1573, 1578 (Fed. Cir. 1993).

information alone or randomly-selected information alone.

Against this construction, CIAS argues that the full language of Claim 1 makes "unique authorized information" open-ended.

> "The '422 patent claims 'unique authorized information . . . comprised of machine readable code elements coded according to a detectable series. The claim language has no exclusion of multi-part information. To the contrary, use of the word "comprised" expressly means that the 'unique authorized information' may include something in addition to the detectable series."[77]

In other words, Claim 1's description of "unique authorized information" includes not just machine readable elements coded according to a detectable series, but also any additional information that the system selects. Thus, argues CIAS, multi-part or -type information is included.

As an initial matter, this argument does not address the re-examination history detailed above, as the Claim 1 language is original to the initial prosecution and so subject to the inventors' disclaimer during re-examination. Accordingly, even if CIAS were correct as to the language in Claim 1, the conclusion would remain the same.

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[77] CIAS Mem. at 15-16.

Further, despite the Court's invitation,[78] CIAS was unable to locate binding case law holding that "comprised of" is an open-ended term, rather than a limiting one. Instead, both parties' searches, as well as the Court's, indicate that there is no consensus in the Federal Circuit as to the meaning of this phrase.[79] In the absence of such precedent, of any indication in the patent itself as to the phrase's meaning, and of any external evidence offered by the parties, the Court adheres to the ordinary and customary meaning of "comprised of" as a limiting description of composition.[80] This construction preserves the distinction between "comprised of" and "comprising," the latter of which in fact is a patent term of art when used in a transitional phrase, meaning "including, but not limited to."[81]

Accordingly, the Court construes "unique authorized information" to mean information associated with each object, unique to that object and authorized by the '422 patent's system, but excluding

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[78] *See* Tr., Oct. 15, 2004, 63:14-65:21.

[79] *E.g., Glaxo Grp. Ltd. v. Apotex, Inc.*, 376 F.3d 1339, 1343 (Fed. Cir. 2004); *Kohus v. Toys R Us, Inc.*, 282 F.3d 1355, 1356 n. 2 (Fed. Cir. 2002); *Schaefer Fan Co., Inc. v. J & D Mfg.*, 265 F.3d 1282, 1284-85 (Fed. Cir. 2001).

[80] *See, e.g., Apotex*, 376 F.3d at 1343 ("Apotex's spray dried solution creates an amorphous 'co-precipitate' comprised of 90% CA, 9% sorbitol, and 1% zinc chloride by mass.").

[81] *See, e.g., Georgia-Pacific Corp. v. United States Gypsum Co.*, 195 F.3d 1322, 1327-28 (Fed. Cir. 1999).

information other than serial information alone or randomly-selected information alone.

2. Machine-Readable Code Elements

Claims 1-14 describe how the objects are associated by the system with unique authorized information comprised of "machine-readable code elements." Alliance contends that the phrase is limited to directly-encoded binary numbers, while CIAS argues that it refers to any code that can be separated into parts and automatically obtained from objects.

The specification defines "machine-readable" as "used in a broad sense and [ ] meant to encompass techniques, methods and apparatus for automatically obtaining from objects information applied thereto or associated therewith."[82] Since the specification here acts explicitly as a dictionary, its definition of "machine-readable" controls.[83]

"Code elements" are also defined in the specification, albeit less concretely, as "digits, characters, positions, places, pulses, signals, etc."[84] This list of examples is non-exclusive, which suggests that the phrase is intended to refer broadly to any individual part of a code. Defendants argue that the specification describes only embodiments that use

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[82] '422 Patent at 4:49-57.

[83] *See Phillips*, 415 F.3d at 1315; *see also Vitronics*, 90 F.3d at 1582.

[84] '422 Patent at 4:60-61.

binary code, but again, a patent is not limited to one embodiment if its terms, as defined, include a broader scope.[85] Here, the specification describes numerous kinds of code elements, not just binary forms.

The specification is "the single best guide to the meaning of a disputed term."[86] Where, as here, it provides explicit definitions, the Court must follow its direction.[87] Accordingly, the phrase "machine-readable code elements" is construed as individual parts of a code (1) that can be separated into parts and (2) that can be automatically obtained from objects.

3. Detectable Series

Claims 1-12 describe each particular object as being associated with unique authorized information comprised of machine-readable code elements "coded according to a detectable series."[88] The specification does not define "detectable series" and discusses "series" in the context of a binary embodiment.[89] While the inventors did not define "detectable series" explicitly during prosecution, they listed "sequential

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[85] *See Phillips*, 415 F.3d at 1323-24.

[86] *Vitronics*, 90 F.3d at 1582.

[87] *See id.*

[88] *See* '422 Patent at 49:41-51:14. Claim 16 describes the designation method of Claim 15 "wherein said n sets of unique information are a detectable series." *Id.* at 52:40-41.

[89] *See generally id.*

serial numbers" as an example in several places.[90] Further, they contrasted the term with the results of "secret algorithms" and noted that in McNeight, which uses a secret algorithm as its means of counterfeit detection, "serial numbers are of no value."[91]

Against this intrinsic evidence, CIAS offers its expert's opinion that, to one skilled in the art, "detectable series" means "information in which a pattern, relationship, or arrangement may be detected through examination of a practical number of samples in the context in which the invention is used."[92]

Alliance objects that the expert's opinion is unsupported and argues that the phrase has no meaning in the art.[93] Without pointing out what is erroneous about the offered definition, or what aspects, if any, are contradicted by the patent, it concludes that the term must be limited to the binary embodiments described in the specification.[94] Alliance's own expert, however, despite professing confusion, uses the phrase without difficulty as part of his own analysis of the

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[90] *E.g.*, '422 File History, Tab 8 at 2, 4, 6, 7.

[91] *Id.* at 5.

[92] Cohen Decl. ¶ 14.

[93] *See* Alliance Reply at 5-6.

[94] *See id.*

'422 patent.[95] This demonstrates that to one skilled in the art-a category which Alliance certainly concedes includes its expert-the phrase has meaning. Moreover, and once again, a patent drawn to encompass multiple possible embodiments is not limited to a single exemplar from the specification.[96]

Accordingly, the term "detectable series" is construed to mean "information in which a pattern, relationship, or arrangement may be detected through examination of a practical number of samples in the context in which the invention is used." This definition is consistent with the inventors' description in the prosecution history, including the inclusion of "sequential serial numbers" and the exclusion of the results of "secret algorithms."[97]

4. Randomly Selected

The final term requiring construction is "randomly selected," which appears in Claims 13 and 14.[98] Those claims describe each particular object as being associated with unique "randomly selected" authorized information comprised of machine-readable code

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[95] *See, e.g.*, Roberts Decl., Exhibit H ("Wiklof Expert Report") at 12-13, 23.

[96] *See Phillips*, 415 F.3d at 1323-24.

[97] *See id.* at 1317.

[98] *See* '422 Patent at 51:15-52:24.

elements.[99] The term is thus substituted in Claims 13 and 14 for the term "detectable series" in Claims 1-12.[100] The specification does not define the term.[101]

Alliance contends that the term means exactly what it says: selection according to a random process, without any pattern or predictability whatsoever, as in a generator that selects digits based on cosmic noise.[102] It argues further that the term cannot include pseudo-random selection, which is apparent randomness that has been generated purposefully, as by a computer algorithm or other program.[103] CIAS does not disagree with Alliance's definition of pseudo-random or argue that a computer or algorithm can generate anything besides a pseudo-random number. It contends, however, that a person of ordinary skill in the art understands "randomly selected" to include information selected by both true and pseudo-random means.[104]

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[99] *See id.*

[100] Claim 15 describes a method for designating objects as authorized objects that involves "randomly selecting" unique authorized information from a larger set of authorized information. *See id.* at 52:25-39.

[101] *See generally id.*

[102] *See* Alliance Mem. at 15-19; Alliance Reply at 6-7.

[103] *See id.*

[104] *See* CIAS Mem. at 22-23. The Court uses the terms "pseudo-random" and "true random" for clarity.

Each side has provided expert testimony to support its position, but neither expert provides additional support, making their assertions less helpful.[105] The specification is silent. Alliance makes the somewhat convoluted argument that because the specification does not teach the use of an algorithm for information selection-which no party disputes would be a pseudo-random selection process-"randomly selected" should be construed to refer only to true random selection.[106] But Alliance does not argue, nor could it, that the use of an algorithm is the *only* means of pseudo-random selection, so that its absence necessitates the exclusion of pseudo-random selection altogether.

Each side points to prior art to support its position. Alliance cites to Shoshani, which explicitly defines "'random numbers' [to mean] true random numbers, as well as Pseudo-random numbers."[107] Alliance argues that Shoshani must have included this definition because the normal meaning of "random" as excluding pseudo-random would otherwise apply. In other words, Shoshani had to provide its own definition to bring pseudo-random within "random." In turn, CIAS cites to U.S. Patent No. 6,048,269 ("Burns"), a slot machine system patent, which discloses use of a "unique

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[105] *See* Roberts Decl., Exhibit M ("Williams Expert Report") at 1-2; Cohen Decl., Exhibit 1 ("Cohen Expert Report") at ¶ 16.

[106] *See* Alliance Mem. at 17-18.

[107] Cohen Decl., Exhibit 2 ("Cohen Reply Report") at 6.

random number" that nonetheless is generated by a computer and therefore pseudo-random.[108]

Finally, Alliance argues further that a sibling patent by the same inventors, U.S. Patent No. 5,367,148 (the "148 patent"),[109] recognizes that "random" does not include pseudo-random. A court may look to a sibling patent and the common application for the meaning of shared terms used in similar contexts.[110] Both the '148 and '422 patents

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[108] Harms Decl., Exhibit B ("Burns Patent") at 4:8-13, 6:21-45. CIAS cites also to U.S. Patent No. 4,448,419 ("Telnaes"), a gaming machine patent, which uses a "random number generator" to select the machine's stopping position. *See generally id.*, Exhibit N ("Telnaes Patent"). It is not clear from the Telnaes claims or specification, however, whether the patent relies on a true or pseudo-random number generator, and thus it is also not clear what Telnaes meant by "random." Although Mr. Storch, one of the '422 patent inventors, states that he is familiar with the "type of slot machines described in" the Telnaes patent and that they do not use true random number generators, his professed experience with that genre of slot machines (which may very well include slot machines other than those described in Telnaes) cannot circumscribe the Telnaes language itself. *See* Storch Decl. ¶ 15.

[109] The '422 and '148 patent derive from a common parent, U.S. Patent No. 4,814,589 (the "'589 patent"), and incorporate the parent's patent disclosure. *See* Roberts Decl, Ex. O ("'589 Patent").

[110] *See, e.g., Intergraph Corp. v. Intel Corp.*, 89 Fed. Appx. 218, 225-26 (Fed. Cir. 2004).

include the term "randomly selected" in the context of choosing information for counterfeit detection.[111]

The '148 patent describes a system in which "[e]ach random portion may contain one or more randomly selected digits. A random number generator may be used which may, e.g., randomly select digits based on cosmic noise."[112] The '148 specification goes on to state, "[w]ith the applicants' random technique, the problems and worries described above for traditional serial numbers and ID numbers in accord with a secret algorithm are simply avoided."[113] This distinction between the results of the '148 "randomly selected" technique and those of pseudo-random algorithmic methods indicates that the '148 technique is a true random one and, therefore, that the '148/'422 inventors used "random" to mean true random.

Further, during prosecution of the '148 patent, the inventors described another patent, Zoltai, as disclosing a system in which

> "[so-called] random process units at a central and remote location output the same code in response to the same unit. The 'random' in [Zoltai's so-called] random process units is a misnomer. If both [Zoltai] units are truly random generators, there should be an

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[111] *See* '422 Patent at 51:15-52:24; Roberts Decl., Exhibit N ("'148 Patent") at 10:45-48.

[112] '148 Patent at 10:45-48.

[113] *Id.* at 10:63-65.

> infinitesimal or no chance for them both to output the same number at the same time . . . [In fact,] Zoltai [elsewhere] discloses that the patterns are not random but 'predetermined from within the units' . . . Thus, [Zoltai does] not disclose the use of random numbers."[114]

Thus, the '148 inventors took prior art to task for using the term "random" incorrectly to include pseudo- or non-random information. This correction further clarifies that when the inventors themselves used "randomly selected" in the '148 patent, they referred to true random selection.

Since the '148 and '422 patents are siblings, the identical claim language of the former can be considered in construing the '422 patent's claims.[115] Although it is a close question, the Court concludes that "randomly selected," as used by the '148 and '422 inventors, refers to true and not pseudo-random selection.

IV. Infringement

"[W]hoever without authorization makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent

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[114] Roberts Decl., Exhibit P ("'148 File History") at 7.

[115] *See, e.g., Intergraph*, 89 Fed. Appx. at 225-26; *Jonsson v. Stanley Works*, 903 F.2d 812, 818 (Fed. Cir. 1990).

therefor [directly] infringes the patent."[116] To establish direct infringement, a plaintiff must prove that one or more claims of the patent read on the accused device literally or under the doctrine of equivalents.[117] Literal infringement requires that each and every limitation set forth in a claim appear in an accused product.[118] Under the doctrine of equivalents, however, "[t]he scope of a patent is not limited to its literal terms but instead embraces all equivalents to the claims described."[119] It thus permits the patentee to claim "insubstantial alterations that were not captured in drafting the original patent claim" and prevents infringers from pointing to inconsequential additions to escape literal infringement.[120]

A. The SDS System

CIAS contends that the SDS system infringes Claims 1 (as amended), 3, 5-7, and 9-12 of the '422 patent. All of those claims have in common the requirement that the counterfeit detection system provide for each object to have "unique authorized

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[116] 35 U.S.C. § 271(a) (2000).

[117] *See, e.g., Advanced Cardiovascular Sys., Inc. v. Scimed Life Sys., Inc.*, 261 F.3d 1329, 1336 (Fed. Cir. 2001).

[118] *See, e.g., Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1310 (Fed. Cir. 2005).

[119] *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 732 (2002).

[120] *Id.* at 733.

information associated therewith comprised of machine-readable code elements coded according to a detectable series."[121]

It is undisputed that Alliance's SDS system produces for each eTicket an identification number comprised of five subparts: ticket type, property identifier, machine number, ticket number, and unique ticket identifier.[122] The ticket number is a 5-digit serial number ranging from 00001 to 99999.[123] The unique ticket identifier, in contrast, is a pseudo-random number, generated by a secret computer algorithm that uses the preceding ticket type, property identifier, machine, and ticket numbers as its inputs.[124]

This composite nature of the SDS eTicket identification number takes it outside the construed claim term "unique authorized information." As construed, "unique authorized information" excludes information other than serial information alone or randomly-selected information alone. Here, the SDS eTicket identification number does include a serial number, the five-digit ticket number, but includes also three non-serial, non-random numbers and the pseudo-random unique ticket identifier. This combination of data means that the SDS system does not read literally on the "unique authorized

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[121] '422 Patent at 49:41-51:14.

[122] *See* Alliance 56.1 ¶ 20; CIAS 56.1 ¶ 20.

[123] *See id.*

[124] *See id.*

information" element of Claims 1, 3, 5-7, and 9-12, as it does not use serial information alone, nor randomly-selected information at all. Nor does the doctrine of equivalents apply, as the '422 inventors narrowed this claim during re-examination to exclude information other than serial information alone or randomly-selected information alone. They cannot now recover that surrendered subject matter by means of the doctrine of equivalents.[125]

Further, and for much the same reason, the SDS system does not use information "comprised of machine-readable code elements coded according to a detectable series." As construed, a detectable series is "information in which a pattern, relationship, or arrangement may be detected through examination of a practical number of samples in the context in which the invention is used." Although an individual SDS eTicket identification number contains a serial number subpart (the ticket number), it is undisputed that the

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[125] *See Festo*, 535 U.S. at 733-34 ("The doctrine of equivalents allows the patentee to claim those insubstantial alterations that were not captured in drafting the original patent claim but which could be created through trivial changes. When, however, the patentee originally claimed the subject matter alleged to infringe but then narrowed the claim in response to a rejection, he may not argue that the surrendered territory comprised unforeseen subject matter that should be deemed equivalent to the literal claims of the issued patent . . . Prosecution history estoppel ensures that the doctrine of equivalents remains tied to its underlying purpose. Where the original application once embraced the purported equivalent but the patentee narrowed his claims to obtain the patent or to protect its validity, the patentee cannot assert that he lacked the words to describe the subject matter in question.").

SDS *system* does not produce eTickets with identification numbers from which a pattern may be detected through examination of a practical number of samples. The final subpart of an SDS eTicket identification number is generated by a secret algorithm, which produces numbers that appear to be random.[126] CIAS concedes that this final part of an SDS eTicket identification number is not a detectable series.[127] Indeed, the '422 inventors distinguished between a detectable series and the results of such an algorithm during prosecution.[128] Since part of the SDS eTicket identification number is not a detectable series, the entire numbers also are not a detectable series, and so the SDS system does not include that element.

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[126] *See* Alliance 56.1 ¶ 25; CIAS 56.1 ¶ 25. Although CIAS states that it disputes Alliance 56.1 ¶ 25, the disagreement goes to the definition of "random," not the results of the SDS algorithm. *See* CIAS 56.1 ¶ 25.

[127] *See* CIAS Mem. at 29; Tr., Oct. 15, 2004, 62:20-63:1.

[128] *See* '422 File History, Tab 8 ("a counterfeit detection system may utilize information coded according to a *detectable series*, such as sequential serial numbers. McNeight [ ] discloses a method for detecting counterfeits in which articles . . . are coded in accordance with a *secret algorithm*, and in which counterfeits are detected by detecting codes which do not conform to the algorithm . . . McNeight [ ] is premised on the use of a secret algorithm . . . and does not recognize that a counterfeit detection system could use sequential serial numbers. . . . McNeight's authorized numbers conform to a secret algorithm and are different from a detectable series such as sequential serial numbers.") (emphasis in original).

Accordingly, the SDS system does not infringe Claims 1, 3, 5-7, or 9-12 either literally or under the doctrine of equivalents.

B. The SMS System

CIAS contends that the SMS system infringes Claims 13 and 14 of the '422 patent, both of which require the use of "unique randomly selected authorized information" to identify objects.[129] "Randomly selected" has been construed to exclude pseudo-random selection and to refer to true random selection only.

It is undisputed that the SMS 18-digit eTicket identification number is comprised of five digits that identify the machine issuing the eTicket and thirteen digits that are generated by a secret algorithm, which uses a machine identification number, casino identification number, the date, and the time as its input data.[130] It is undisputed also that the SMS secret algorithm, like all algorithms, generates pseudo-random numbers.[131] As the term "randomly selected" from Claims 13 and 14 has been construed to refer to true random selection only, the SMS system thus does not literally infringe those claims. CIAS

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[129] *See* '422 Patent at 51:15-52:24.

[130] *See* Alliance 56.1 ¶ 23; CIAS 56.1 ¶ 23.

[131] *See* Alliance 56.1 ¶ 25; CIAS 56.1 ¶ 25. Although CIAS states that it disputes Alliance 56.1 ¶ 25, the disagreement goes to the definition of "random," not the results of the SMS algorithm. *See* CIAS 56.1 ¶ 25.

argues that the doctrine of equivalents should apply here, as Alliance has conceded that pseudo-random information presents "the appearance of randomness," arguably the crucial deterrence function of a counterfeit detection system.[132] Alliance does not address this argument, but since the SMS system does not infringe Claims 13 and 14 for an independent reason, it is ultimately an academic point.

As with the SDS system, the SMS system does not use "unique . . . authorized information," as that term has been construed to exclude information other than serial information alone or randomly-selected information alone. It is undisputed that the SMS 18-digit eTicket identification number is comprised of five digits that identify the machine issuing the eTicket and thirteen digits that are generated by a secret algorithm, which uses a machine identification number, casino identification number, the date, and the time as its input data.[133] As with the SDS system, this multi-type information (part serial, part non-serial) contradicts the "unique . . . authorized information" element of Claims 13 and 14, as it is neither serial information alone nor randomly-selected information at all. Again, since the inventors voluntarily narrowed the scope of the patent during re-examination to exclude information other than serial information alone or randomly-selected

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[132] CIAS Mem. at 33.

[133] *See* Alliance 56.1 ¶ 23; CIAS 56.1 ¶ 23.

information alone, the doctrine of equivalents does not apply.[134]

Accordingly, the SMS system does not infringe Claim 13 or 14 either literally or under the doctrine of equivalents.

V. Conclusion

Alliance's motion for summary judgment dismissing the complaint is granted. As this moots defendants' counterclaim, the action is dismissed in its entirety.

SO ORDERED.

Dated March 29, 2006

/s/
Lewis A. Kaplan
United States District Judge

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[134] *See Festo*, 535 U.S. at 733-34.

APPENDIX C

United States Court of Appeals
Federal Circuit

No. 2006-1342

[Filed October 24, 2007]

CIAS, INC.,

Plaintiff-Appellant,

v.

ALLIANCE GAMING CORPORATION and BALLY GAMING, INC.,

Defendants-Appellees.

Before NEWMAN, Circuit Judge, SCHALL, Circuit Judge, and MOORE, Circuit Judge.

ORDER

A petition for rehearing having been filed by the Appellant,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, DENIED.

The mandate of the court will issue on October 31, 2007.

APPENDIX D

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

03 civil 3064 (LAK)

[Filed March 30, 2006]

CIAS, INC.,	)
	)
Plaintiff,	)
	)
v.	)
	)
ALLIANCE GAMING CORPORATION and BALLY GAMING, INC.,	)
	)
Defendants.	)

JUDGMENT

Defendant having moved for summary judgment dismissing the complaint, and the matter having come before the Honorable Lewis A. Kaplan, United States District Judge, and the Court, on March 29, 2006, having rendered its Memoradum Opinion granting Alliance's motion for summary judgment, it is,

ORDERED, ADJUDGED AND DECREED: That for the reasons stated in the Court's Memorandum

Opinion dated March 29, 2006, Alliance's motion for summary judgment dismissing the compliant is granted and as this moots defendants' counterclaim, the action is dismissed in its entirety.

Dated: New York, New York
March 30, 2006

J. MICHAEL McMAHON
Clerk of Court

BY: */s/*
Deputy Clerk

APPENDIX E

Docket No. 20168.35

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of:	Leonard Storch et al.
Patent No.:	5,283,422
Issue Date:	February 1, 1994
Title:	INFORMATION TRANSFER AND USE, PARTICULARLY WITH RESPECT TO COUNTERFEIT DETECTION
Patent Owner:	Cias, Inc.

REQUEST BY PATENTEE FOR REEXAMINATION PURSUANT TO 35 U.S.C. §§ 302-307 AND 37 C.F.R. § 1.510

SIR:

Reexamination under 35 U.S.C. §§ 302-307 and 37 C.F.R § 1.510 is requested of U.S. Patent No. 5,283,422 ("the '422 patent") which issued on February 1, 1994 and is still enforceable. This request is made by the patent owner (by assignment), Cias, Inc.

This Request includes the following parts required by 37 C.F.R. §1.510 (b).

- Check (attached) for $2520.00 as the fee required by 37 C.F.R. §1.20(c).

- Statement (below) pointing out each substantial new question of patentability based on prior art patents and printed publications.

- Identification (below and in Exhibits 1-12) of every claim for which reexamination is requested, and the detailed explanation require by 37 C.F.R. §1.510(b)(2).

- Copies (enclosed) of: U.S. Patent Nos. 3,833,795 (Shoshani) and 4,373,134 (Grace et al.); Canadian Petent No. 1,184,658; and IBM Technical Disclosure Bulletin, Vol. 17, No. 9, pages 2768-2770, dated February 1975.

- Copy (enclosed) of the entire specification (including claims) and drawings of the '422 patent, in the form required by 37 C.F.R. §1.510(b)(4).

- New Power of Attorney (enclosed)

Exhibits 1-12 also discuss the following prior art previously considered during prosecution of the '422 patent: U.S. Patent No. 3,890,599 (Simjian); U.S. Patent No. 4,514,815 (Anderson); and U.S. Patent No. 4,463,250 (McNeight et al.). Copies of the Simjian, Anderson and McNeight et al. patents are also enclosed.

1. Statement Pointing Out Each New Substantial Question of Patentability (37 C.F.R. §1.510(b)(i))

Cias, Inc. ("Cias") sued ETM Entertainment Network, Inc. ("ETM") for infringement of the '422 patent (Cias Inc. v. ETM Entertainment Network, Inc. 98 Civ 4325 (SHS), U.S. District Court, Southern District of New York). During the discovery phase, which continues, ETM identified U.S. and foreign patent documents, and printed publications which ETM alleges are prior art against and invalidate the '422 patent under 35 U.S.C. § 102 and/or § 103. Among the documents identified by ETM are U.S. Patent Nos. 3,833,795 ("Shoshani et al.") and 4,373,134, ("Grace et al"); Canadian Patent No. 1,184,658 ("Canadian Patent"); and IBM Technical Disclosure Bulletin, Vol. 17, No. 9, pages 2768-2770 ("IBM").

These documents raise a substantial new question of patentability of claims 1 and 11-14 as follows:

- A substantial new question of patentability of claim 1 based on the Shoshani et al. patent is raised by ETM's allegation because the Shoshani et al. patent was not cited during prosecution of the '422 patent.

- A substnatial new question of patentabilty of claims 1 and 11-14 based on the Grace et al. patent is raised by ETM's allegation because the Grace et al. patent was not cited during prosecution of the '422 patent.

- A substantial new question of patentability of claims 1 and 11-14 based on the Canadian patent is raised by ETM's allegation because the Canadian patent was not cited during prosecution of the '422 patent.

- A substantial new question of patentability of claim 1 based on the IBM Bulletin is raised by ETM's allegation because the IBM Bulletin was not cited during prosecution of the '422 patent.

2. Identification of Claims and Detailed Explantaiton of Pertinence Identification

Reexamination is requested of claims 1 and 11-14.

Detailed Explantation

Claim charts attached as Exhibits 1-12 and the discussion below set forth a detailed explanation of the pertinence of each newly cited document. The claim charts compare the claims and the newly cited documents as follows:[1]

- Exhibit 1: claim1/Shoshani et al.

- Exhibit 2: claim 1/Grace et al.

- Exhibit 3: claim 1/the Canadian Patent

- Exhibit 4: claim 1/IBM Bulletin

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[1] The claim charts also discuss prior art previously considered during prosecution of the '422 patent.

- Exhibit 5: claim 11/Grace et al.
- Exhibit 6: claim 11/the Canadian Patent
- Exhibit 7: claim 12/Grace et al.
- Exhibit 8: claim 12/the Canadian Patent
- Exhibit 9: claim 13/Grace et al.
- Exhibit 10: claim 13/the Canadian Patent
- Exhibit 11: claim 14/Grace et al.
- Exhibit 12: claim 14/the Canadian Patent

Shoshani et al. (claim 1): In Fig 1, objects 10 (stock certificates, checks, currency) are provided with an associated pair of numbers 11. One number of the pair 11 is a serially-selected identification number 12, and the other number of the pair is a randomly-selected control number 13 (col. 2, lines 23 to 33). A master list of the associated pairs of numbers applied to objects is stored in mass memory 25 (col. 2, lines 43-45 and col. 3, lines 3-4). While recognizing the advantages that serialization can contribute to counterfeit detection, Shoshani et al. teaches away from the use of serial numbers alone, stating that: "...the use of serial numbers [alone] does not inhibit counterfeiting..." (col. 1, lines 14-35).

In Fig. 2, apparatus (not shown) feeds the object past reader 21 while reader 21 sequentially scans the objects for the pair of numbers 11 that are then stored in temporary registers 23. Comparator 24 compares

pairs of numbers stored in the registers 23 with pairs of numbers stored in the mass memoary 25, and the discrepancies are indicated. (Col. 2, line 58 - col. 3, line 35.)

Shoshani et al. teaches the use of a pair of numbers, and not either serial numbers alone or randomly-selected numbers alone. Shohsani et al. discloses only one reader 21 in apparatus 20, with the reader and all parts of the apparatus 20 (21 to 26) being shown and described as one complete apparatus at one facilty. Shoshani et al. is even less pertinent to claims 11-14 which involve detecting a counterfeit when read information is the same as information previoulsy read from another similar object or is the same as authorized information associated with another object.

Grace et al. (claims 1 and 11-14): Fig. 1 shows a magnetic card vote casting system which includes a voter registration card 10, a vote recording machine 20, a vote casting machine 50 and a central tabulating machine 54 for the voting district. A voter makes voting selections at the vote recording machine 20 which magnetically records the selection on the voter registration card 10. On election day, a vote casting machine is located at each voting precinct, and a voter presents card 10 to the precinct officials who verify the voter's registration by inserting the card into slot 56 in machine 50. The vote casting machine then compares the identification information on strip 14 of the card 10 to the registration information stored in the machine to determine whether or not the voter is registered, and whether or not he has previoulsy voted in the pending election" (col. 3, lines 1 to 8).

Voter registration information on card 10 appears to be the voter's name, address and precinct, as shown in Fig. 1, rather than unique authorized information coded according to a detectable series, or unique randomly selected authorized information. Voter registration and prior voting checks are done only at the precincts, and not at the central facility where the voter tabulation machine 54 is located.

The Canadian Patent (claims 1 and 11-14): Performance tickets 10 (Figs. 1 and 1a) are encoded with two machine readable codes, visible code 24 and invisible code 26. Code 26 is printed with magnetic ink and covered with a color patch 30 of non-magnetic ink to make code 26 invisible. Codes 24 and 26 are oriented in the same direction enabling them both to be read by a reading mechanism 114 (Fig. 6), which includes both an optical reading sensor 118 for reading the visible code 24, and a magnetic reading sensor 116 for reading the invisible code 26.

As shown in Figure 3a, code 24 encodes the year, month and day, performance and the section, row and seat (page 4, lines 28 to 30). Additional information encoded by code 26 is unique to the performance (page 5, lines 11 and 12).

A ticket taker validation unit 32 (Fig. 2) controls an entrance device such as turnstile 34. A ticket taker unit 32 is associated with its own programmable memory into which the encoded information of code 24 and code 26 is programmed and stored for each performance (ticket taker 32 must be re-programmed before each performance). The ticket taker unit 32 reads the codes 24 and 26 and upon matching of the

read information of codes 24 and 26 with the stored information, the match indicates that the ticket is for the correct performance and has the correct invisible machine readable code (page 6, lines 10 to 15). If the codes match, ticket taker unit 32 allows the patron to pass. If the ticket taker unit 32 is unable to read one or more of codes 24 or 26 due to that portion of the ticket being damaged, then the ticket is manually checked to determine whether or not the patron should pass. If the ticket does not have a magnetic code, then this indicates a counterfeit ticket, or if the codes do not match, it indicates either a countefeit ticket or a faulty ticket. (Page 5, line 33 to page 7, line 14, and Abstract).

Thus, one ticket taker unit 32, with its own associated programmable memory, controlling one entrance turnstile, indicates a counterfeit ticket, independent of any other apparatus at any other facility, when it cannot locate magnetic coding 26 on a ticket 10 or when it can not match the read codes 24 and 26 with the codes in its associated memory.

An off-line computer 64 may provide a "further" indication that the ticket may be counterfeit. In addition, to the checks made by the ticket taker units 32, the information read from the code 24 may be transmitted via dataline 63 to the memory of the off-line computer 64. Depending upon the degree of sophistication in the system, it may also be possible to compare part of the code 24 (i.e., the part concerning section, row and seat) to the information stored in offline computer 64, so that if a ticket has already passed with the same section, row and seat, this provides a *further* indication that the ticket may be

counterfeit. (Page 8, lines 20 to 33). Thus, the tickets are always checked at the gate with respect to codes 24 and 26 by a ticket taker unit 32, and part of the code 24 on tickets may also be checked by the off-line computer 64.

IBM Bulletin (claim 1): Air line tickets are encoded with a unique key number that is used to access the reservation information of a particular traveler. The system determines (last two lines of page 2769 to top of page 2770) if a ticket holder is entitled to enter an aircraft based on the reservation information, and prevents attempts to use lost or stolen tickets. Tickets are read by magnetic readers in boarding terminal 34, and the key number is transmitted to the CPU 20 which searches file 22 for the reservation or record associated with the key number from which it is determined whether a ticket holder is entitled to enter an aircraft. The fact of lost or stolen tickets are flagged in files 12 or 22.

3. Closing

The office is requested to determine whether the documents newly cited herein raise a substantial new question of patentability, and if so, to order reexamination of the '422 patent, or whether they are cumulative of prior art considered during prosecution of the '422 patent.

Dated: March 30, 1999

Respectfully submitted,

/s/
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APPENDIX F

Attorney Docket: 3922.42

IN THE UNITED STATES
PATENT & TRADEMARK OFFICE

Reexam Control No.:	90/005,308
Filing Date:	March 30, 1999
Patent No.:	5,283,422
Issue Date:	February 1, 1994
Inventors:	Leonard Storch et al.
Title:	INFORMATION TRANSFER AND USE, PARTICULARLY WITH RESPECT TO OBJECTS SUCH AS GAMBLING CHIPS
Examiner:	Le, T.
Group Art Unit:	2876

PATENT OWNER'S STATEMENT

SIR:

For its Statement, the patent owner, Cias, Inc., summarizes and expands the comments made on behalf of the patent owner at the interview with Examiner Thien Le on August 11, 1999, attended by the co-inventors Leonard Storch and Ernst van Haagen, and the undersigned attorney.

A Request for Extension of Time was filed by fax on August 6, 1999. A copy is enclosed. Approval of the extension is requested.

Please charge any fees required to enter this paper to Deposit Account 02-4270.

The undersigned argued on behalf of the patent owner that the prior art cited in the Request for Reexamination was cumulative of the prior art cited during prosecution of the 422 patent. Only claims 1 and 11 were discussed at the interview. Here, only independent claims 1 and 11-14 are discussed. We reserve the right to argue patentability and all other issues in respect of the dependent claims.

Brief Summary of Prosecution

Prior to the Response filed May 3, 1993, the claims in application Serial No. 07/927,798 were rejected in Office Actions mailed October 26, 1990, February 2, 1992 and November 27, 1992 (final) as being unpatentable over Anderson (4,514,815) in view of

Weiss (3,524,163) and McNeight et al (4,463,250). The individual references are discussed below.

Claim 1[1]

Prior Art of Record Applied Against Claim 1

Anderson discloses a material control system capable of tracking articles. Articles are entered into the system by placing a label with a unique serial number on the article. Serial numbers are read by an OCR reader and a computer's memory is searched for material control purposes. (Col. 11, lines 29-48.)

Weiss was cited for its disclosure of bar codes.

McNeight et al. discloses a method for use in detecting counterfeit articles having a bar coded mark generated by a secret algorithm. Counterfeit articles are detected by machine reading the bar coded mark and determining whether or not the machine-read mark conforms to the algorithm. McNeight et al. states that the use of an alphanumeric serial number is of no value for the prevention of counterfeiting (col. 5, lines 40-44). McNeight et al. discloses that the method is useful in the detection of forged notes and other documents such as driving licenses, passports, share bonds, and tickets for sporting events (col. 1, lines 10-12).

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[1] The examiner is referred to the claim charts for claim 1 filed with the Request for Reexamination for further comparison of the cited prior art and the Reexam prior art.

Claim 1 was amended after the November 27, 1992 final Office Action and allowed over Anderson, Weiss and McNeight et al.

Cumulative Cited Prior Art Not Applied Against Claim 1

Simjian (3,890,599) cited to the examiner prior to the final Office Action mailed November 27, 1992, discloses an arrangement for authenticating documents such as airline tickets using bar code indicia. Each ticket is coded with unique code indicia (e.g., bar coded), and the code indicia is stored in a central code bank (col. 1, lines 28-32). The code indicia includes a an originating code portion 24 (e.g., an issuing agent or location) and a serializing code indicia 26 (Fig. 3, col. 2, lines 33-35). The central code bank is a central computer 40A (Fig. 4).

The code indicia on a ticket is machine read by one of a plurality of readers at different locations (col. 4, lines 30-40). The machine read code indicia is transmitted to the central computer to determine whether the read code indicia is still stored in the central computer. The central computer includes a search means 48 to search the central code storage for the particular *set* 24, 26 of code indicia (Fig.1, col. 3, lines 64-66). If the machine-read *set* of code indicia is found in the central computer, the ticket is validated and the code indicia is erased from the central code bank to preclude use of a forged or duplicated ticket carrying the same code indicia (Col. 1, lines 28-46, col. 3, line 56 to col. 4, line 8.)

Simjian discloses the use of a code *set* including an originating portion 24 and serialized portion 26 stored in a central database, means to machine-read the set of code indicia at a plurality of locations, and a central database to determine if a machine-read *set* of indicia is present in the database. However, the examiner considered Simjian while claim 1 was rejected as being unpatentable over Anderson, Weiss and McNeight et al., and did not apply Simjian to reject claim 1 because Simjian was evidently found to be no more relevant than, and ***cumulative*** of, Anderson, Weiss and McNeight et al.

Reexam Prior Act

Shoshani, like Simjian, applies a *set* or an *associated pair* of numbers 11 to documents. Like McNeight, et al., the documents can be stock certificates (col. 1, lines 8-11). Like Simjian, one number of the pair is a serially-selected identification number 12. The other number of the pair is a randomly-selected control number 13. (Col. 2, lines 23-33.) Like Simjian, a master list of the associated pairs of numbers is stored in mass memory (col. 2, lines 23-33).

Like McNeight et al., Shoshani recognizes that "...use of serial numbers [alone] does not inhibit counterfeiting..." (col. 1, lines 14-35). (Since Simjian uses a set of numbers, Simjian by inferences agrees with both McNeight et al. and Shoshani.)

Shoshani is less relevant than Simjian because Shoshani discloses a single reader, not a plurality of readers at different locations and a central computer

and database, and Shoshani is cumulative of Simjian, Anderson, Weiss and McNeight et al.

Grace discloses a magnetic card vote casting system. Voter registration information on card 10 appears to be the voter's name, address and precinct (Fig. 1). Voter registration checks and prior voting checks are done only at the precinct and not at a central facility. Grace is a cumulative of the prior art considered during prosecution of the 422 patent.

The Canadian Patent discloses encoding performance tickets (like McNeight et al.) with two machine readable codes (like Simjian). One code 24 is visible and the other code 26 is a magnetic patch covered with a color patch of non-magnetic ink to make code 26 invisible. Both codes are read by a reading mechanism 114 (Fig. 6) at a turnstile.

As shown in Fig. 3a, code 24 encoded the year, month and day, performance, and the section, row and seat (page 4, lines 28-30). Additional information encoded by code 26 is unique to the performance (page 5, lines 11 and 12). Thus, the *set* of codes 24 and 26 of the Canadian Patent is no more relevant than and cumulative of Simjian.

The codes 24 and 26 are read at a turnstile by a ticket taker unit 32 (Fig. 2), which includes its own programmable memory into which the encoded information of code 24 and 26 is programmed and stored for each performance. The turnstile ticket taker unit 32 reads the codes 24 and 26 from a ticket, and upon finding a match in its memory indicates that the ticket is for the correct performance. If the codes do not

match, the ticket is either counterfeit or faulty. (Page 5, line 33 to page 7, line 14, and Abstract). This is less relevant than Simjian which searches a central database.

The Canadian Patent also discloses an off-line computer 64 which may provide a "further" indication that the ticket may be counterfeit. In additional to the checks made by the turnstile ticket taker units 32, the information read from the code 24 may be transmitted to the off-line computer 64. Depending upon the sophistication in the system, it may also be possible to compare part of the code 24 (i.e., the part containing section, row and seat) to information stored in the central computer. If a ticket has already passed with the same section, row and seat, this is a ***further*** indication that a ticket may be counterfeit.

Since tickets must always be checked locally at the gate, and since the tickets include two codes 24 and 26, this reference is at best cumulative of Simjian, Anderson, Weiss and McNeight et al.

The IBM Bulletin discloses encoding airline tickets with a unique key number that is unsed to access reservation information of a particular traveler. It is no more relevant than Simjian.

Claims 11-14[2]

Prior Art of Record Applied Against Claim 11-14[3]

The same prior art was cited against claims 11-14 as against claim 1. With respect to claims 11-14, McNeight et al. Discloses detecting marks which occur many times when they should only occur once or just a few times (col. 2, lines 27-32), or are in the wrong place or are repeated (col. 3, lines 9-10). Anderson also discloses reading a set of labels a second time if all labels of the set were not recieved by the computer from a first scan, discarding the reads from those labels that were received by the computer in the first scan, and receiving only the labels which were not recieved by the computer in the first scan (col. 12, lines 9-19).

Reexam Prior Art

Shoshani and the **IBM Bulletin** are not relevant to claims 11-14. For **Grace et al.** and **the Canadian**

---

[2] The examiner is referred to the claim charts for claims 11-14 filed with the Request for Reexamination for further comparison of the cited prior art and the Reexam prior art.

[3] Claims 11 and 12 are similar in that in both claims the objects have information coded according to a detectable series. Claims 13 and 14 are similar in that in both claims the objects have unique randomly selected authorized information. Claims 11-14 detect a counterfeit when read information is the same as information previously read from another similar object (claims 11 and 13) or the same as authorized information associated with another similar object (claims 12 and 14).

Patent, please refer to the discussion above, the discussion in the Request for Reexamination, and the claim charts filed with the request for reexamination.

Examiner's Comments

As mentioned at the interview, the examiner's statements regarding the Reexam prior art made in the decision granting reexamination appear to be accurate as far as they go. However, it does not appear that the examiner considered whether the Reexam prior art was cumulative of the prior art considered during prosecution of the '422 patent. Th eexaminer appeared to confirm this and was understood to say that his comments did not mandate a rejection of the claims based on the Reexam prior art.

Conclusion

It is submitted that all claims are allowable over the Reexam prior art and it is requested that patentability of all claims be confirmed as issued.

August 24, 1999

/s/
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I hereby certify that this paper is being deposited this date with the U.S. Postal Service as First Class Mail addressed to:
Assistant Commissioner for Patents, Washington, D.C. 20231, Box Reexam

/s/ Frank J. DeRosa 8/24/99
Name Date

/s/ Frank J. DeRosa
Signature

APPENDIX G

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Leonard Storch and Ernst van Haagen

Serial No.: 07/768,106

Filing Date: September 30, 1991

For: INFORMATION TRANSFER AND USE, PARTICULARLY WITH RESPECT TO COUNTERFEIT DETECTION

Examiner: Robert Weinhardt

Group Art Unit: 2311

Hon. Commissioner of Patents & Trademarks
Washington, D.C. 20231
Box AF

RESPONSE TO FINAL ACTION OFFICE AND REQUEST FOR EXTENSION OF TIME

SIR:

This is in response to the final Office Action mailed February 10, 1992.

A two month extension of time pursuant to 37 C.F.R. 1.136(a) to July 10, 1992 is requested in which to respond to the February 10, 1992 Office Action. A check for $175.00 is enclosed as the extension fee pursuant to 37 C.F.R. 1.17(b).

Please amend the above-identified application as follows.

In the Claims

Amend the claims as indicated below.

184. (Amended) A system for identifying a counterfeit object from a set of similar authentic objects, each object in said set having unique authorized information associated therewith comprised of machine-readable code elements coded according to a detectable series, the system comprising:

means at a first location for storing said authorized information;

means at a plurality of locations other than said first location for machine-reading code elements from a similar object and providing information related to the machine-read code elements;

means coupled to receive said information related to said code elements machine-read from said object for at least temporarily storing that information; and

means at said first location for detecting when information related to code elements machine read

from a similar object is different from said authorized information, whereby a counterfeit may be detected.

185. (Amended) A system for identifying a counterfeit object from a set of similar authentic objects, each object in said set having unique authorized information associated therewith comprised of machine-readable code elements coded according to a detectable series, the system comprising:

means at a plurality of locations other than a first location for machine-reading code elements from a similar object and providing information related to the machine-read code elements;

means coupled to receive said information related to said code elements machine-read from said object for at least temporarily storing that information; and

means at said first location for detecting when information related to code elements machine read from a similar object is the same as information previously read from a similar object, whereby a counterfeit may be detected.

186. (Amended) A system for identifying a counterfeit object from a set of similar authentic objects, each object in said set having unique authorized information associated therewith comprised of machine-readable code elements coded according to a detectable series, the system comprising:

means at a first location for storing said authorized information;

means at a plurality of locations other than said first location for machine-reading code elements from a similar object and providing information related to the machine-read code elements:

means coupled to receive said information related to said code elements machine-read from said object for at least temporarily storing that information; and

means at said first location for detecting when information related to code elements machine read from a similar object is the same as authorized information associated with another similar object, whereby a counterfeit may be detected.

187. (Amended) A system for identifying a counterfeit object from a set of similar objects, each object in said set having unique randomly selected authorized information associated therewith comprised of machine-readable code elements, the system comprising:

means at a first location for storing said randomly-selected authorized information;

means at a plurality of locations other than said first location for machine-reading code elements from an object and providing information related to the machine-read code elements;

means coupled to receive said information related to said code elements machine-read from said object for at least temporarily storing that information; and

means at said first location for detecting when information related to code elements machine read from an object is the same as information previously read from another object, whereby a counterfeit may be detected.

188. (Amended) A system for identifying a counterfeit object from a set of authentic objects, each object in said set having unique randomly selected authorized information associated therewith comprised of machine-readable code elements, the system comprising:

means at a first location for storing said authorized information;

means at a plurality of locations other than said first location for machine-reading code elements from an object and providing information related to the machine-read code elements;

means coupled to receive said information related to said code elements machine-read from said object for at least temporarily storing that information; and

means at said first location for detecting when information related to code elements machine read from an object is the same as authorized information associated with another object, whereby a counterfeit may be detected.

REMARKS

Favorable reconsideration of this application as amended is requested.

Claims 184-197 were rejected under 35 U.S.C. 103 as being unpatentable over Anderson in view of Weiss and McNeight et al. Claims 184-187 were rejected on the same grounds as in the final Office Action in parent application Serial No. 292,569. At the interview conducted in parent application Serial No. 292,569, the following reasons were advanced in support of patentability over the Anderson Patent and the McNeight et al. Patent.

Anderson is concerned with inventory control rather than counterfeit detection. As such, the Anderson system does not expect to encounter duplicate, extraneous or counterfeit articles and therefore would likely assume that any article with an authorized serial number, whether there be two or ten with the same serial number, is an authorized article that was now in the location at which the serial number was machine read. Why should an inventory control system assume otherwise? In fact, Anderson ensures that: no article with the same indicia is present in the system" (col. 3, lines 12-20). Thus, Anderson acknowledges that his system would not work as a counterfeit detection system which is looking to encounter two articles with the same serial number.

The Examiner did not provide a specific rebuttal to this argument, other than to argue to the effect that if Anderson wanted to detect counterfeits it had the means and technology to do so, and that it was a

question of intent (see also the discussion of intent in the final Office Action). Additionally, the Examiner argued that Anderson detected duplicates. Applicants disagree that Anderson has the means to detect a counterfeit because the Anderson system is not programmed to detect counterfeits. Therefore, Anderson does not in any way suggest counterfeit detection. The logical conclusion to the Examiner's reasoning on the "intent" and known technology issues is that no invention is patentable which uses a general purpose computer with known hardware technology regardless of what unique and unobvious functions the general purpose computer may be programmed to perform.

As to Anderson allegedly detecting duplicates, any such detection is not a detection of a counterfeit. What Anderson detects when it checks for a repetition of a serial number is an article which was missed when a large number of articles are being read into the system. Thus, the serial number of a missed article (one whose serial number is read once, not twice) can be identified and entered in to the system. The articles whose serial numbers are read a second time are assumed to be the same articles which were read, previously and are not entered into the system. But the article whose serial number is read only once is assumed to be the article that was missed, and its serial number is entered into the system. See col. 12, lines 9-19 of Anderson. Again, Anderson is not programmed to detect counterfeits, and as such does dot identify the articles whose serial number is read a second time as counterfeits. Moreover, when not checking for a missed article and Anderson encounters any serial number which was previously entered into

the system, Anderson simply concludes that the article has moved to a new location. Consideration of whether it is a counterfeit or a genuine article is not disclosed in Anderson.

As to McNeight et al., that patent does not disclose storing the authorized serial numbers. Instead, McNeight et al. teaches storing a secret algorithm which generates the code markings for the articles such that one cannot deduce the algorithm from a small sample of the markings. Also, McNeight et al. teaches that use of alphanumeric serial numbers "is of no value for the prevention of counterfeiting" (col. 5, lines 40 -48). Security in the McNeight et al. system is predicated on (a) keeping the algorithm secret (which may be hard to do where the algorithm is loaded into portable field units as in McNeight et al.), and (b) a would-be counterfeiter only being able to obtain a small sample of authorized articles so that he can't "break" the algorithm (which may be a risky assumption given the lengths criminals go to where the rewards are high).

On the other hand, referring to claim 184, for example, in the system claimed by the applicants, the authentic articles have associated therewith authorized information comprising machine-readable code elements coded according to a detectable series (e.g., serial numbers), and such authorized information is stored in a storing means, not generated by an algorithm.

However, the Examiner at the interview persisted in the rejection despite the above arguments, as the Examiner Interview Record reflects.

Independent claims 184, 185, 186, 187 and 188 have been amended in order to provide a better definition of the invention. Applicants believe that the claims prior to amendment herein distinguished over Anderson and McNeight et al., and in amending the claims, the applicants do not acquiesce in the rejection of the claims based on the inventory control system of Anderson, which is different from a counterfeit detection system, and the secret algorithm system of McNeight et al., for the reasons summarized above.

Should the Examiner not enter the above amendments for any reason, then he is requested to allow the claims as they stood prior to this paper on the basis of the arguments made above with respect to Anderson and McNeight et al.

Independent claims 184, 186, 187 and 188 as amended claim that the means for storing the authorized information and the means for detecting when information read from an object is the same (or different) from the stored authorized information are both at a first location, while the means for machine-reading code elements from objects are at a plurality of locations other than the first location. This claimed arrangement safeguards the authorized information because the authorized information is stored at a location which may be central to the system at which security measures may more easily be implemented to prevent the authorized information from being compromised, as opposed to attempting to safeguard the authorized information at a number of code-element-reading locations which would typically be remote from a central location. In claim 185, the detecting means is at the first location while the

means for machine-reading code elements from the objects are at a plurality of locations other than the first location. This also provides security in that the authorized information need not be located at the remote locations.

Such a system in which the authorized information is safeguarded at a central location, and in which a number of remote code-element-reading locations are provided where there is no detection function performed, is depicted in Fig. 21 of the application in a casino environment.

Anderson teaches in Fig. 10 and the associated text at col. 14, lines 56 & et seq. that the serial numbers of the inventoried articles be provided to remote computers 212 and 245 which also include processing means to operate on these stored serial numbers and on serial numbers read from OCR devices 237 and 264. That arrangement may be satisfactory from a security standpoint for the sheltered environment of a closed inventory control system, but if applied to a counterfeit detection system in an open environment, it would introduce serious security problems for safeguarding stored authorized information. For example, if a counterfeiter had access to authorized serial numbers, he could counterfeit with increased impunity because there is little likelihood of detection as long as the counterfeit objects are of a suitable quality. And the risk of a security breach with an Anderson inventory system in an open environment would only increase dramatically as the number of remote locations increases.

The same applies to McNeight et al., which also teaches that processing between machine-read information and information generated by an algorithm be done at the remote locations rather than at a central location. See Figs. 2 and 3 and the associated text. Moreover, the claims herein also may be distinguished from McNeight et al. because McNeight et all does not teach storing the authorized serial numbers at all. Rather, McNeight et al. teaches use of an algorithm to generate the authorized serial numbers. This is risky from a security standpoint even if the algorithm were stored only at a central location because once the algorithm was either deduced or stolen, then a counterfeiter could generate all of the authorized serial numbers and counterfeit with increased impunity. Providing the algorithm to a number of portable code readers 21 only makes the security problem worse.

Weiss was cited apparently only for its alleged disclosure of a start indicium for a bar code.

Therefore, it is submitted that claims 185-188 are allowable not only because the inventory control system of Anderson and the secret algorithm system of McNeight et al. do not disclose or suggest the counterfeit detection system claimed herein for the reasons summarized above.

With respect to claim 197, the Examiner has made no comments which would indicate the grounds for rejecting that claim based on Anderson, McNeight et al. and Weiss. None of those references disclose the method claimed in claim 197. For example, where is there a disclosure of randomly selecting the "m" sets

from "n" sets with "m being substantially less than n such that no given set of said m sets of authorized information is deducible from all or part of the remaining of said m sets of authorized information"?

Accordingly, it is submitted that the rejection of claim 197 was improper, and withdrawal of that rejection and allowance of the claim are requested. If, however, the Examiner rejects claim 197 on new grounds, he should withdraw the final office action and re-open prosecution in order to give the applicants a fair chance to respond.

It is submitted that all of the independent claims are allowable for the reasons stated above.

It is submitted that the dependent claims are allowable along with the parent independent claim from which they ultimately depend.

Reconsideration and allowance of claims 184-197 are requested, as are prompt reconsideration and allowance of the application.

Respectfully submitted,

Date: July 10, 1992

/s/_____

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APPENDIX H

TABLE OF CASES

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Gillepsie v. Dywidag Sys. Int'l USA, 501 F.3d 1285 (Fed. Cir. 2007)	DISAGREED
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No. 07-964

FILED
MAR 24 2008
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SUPREME COURT, U.S.

IN THE

Supreme Court of the United States

CIAS INC.,

Petitioner,

v.

BALLY TECHNOLOGIES, INC.
and BALLY GAMING INC.,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

BRIEF IN OPPOSITION

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QUESTION PRESENTED

Whether petitioner advances any reason to grant certiorari where the Federal Circuit unanimously affirmed the district court's application of prosecution history estoppel to limit the scope of petitioner's patent claims in a manner consistent with clear and unmistakable statements that petitioner made to the Patent Examiner, and never thereafter retracted, distinguishing prior art references?

CORPORATE DISCLOSURE STATEMENT

Bally Technologies, Inc., formerly known as Alliance Gaming Corporation, is publicly held. Through wholly-owned subsidiaries, it controls 100% of the stock of respondent, Bally Gaming, Inc. No publicly held company owns 10% or more of the stock of Bally Technologies, Inc.

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INTRODUCTION

Petitioner presents *no* "compelling reasons" to grant this Petition for Writ of Certiorari. *See* Sup. Ct. R. 10. Petitioner does not and could not contend that the Federal Circuit proclaimed any new rule of law that this Court might wish to review. To the contrary, petitioner agrees with the Federal Circuit's enunciation of the doctrine of argument-based prosecution history estoppel. Pet at 5. That legal rule, simply put, dictates that a "patentee is held to what he declares during the prosecution of his patent." *Gillespie v. Dywidag Systems Int'l, USA*, 501 F.3d 1285, 1291 (Fed. Cir. 2007) (citations omitted). Not only does petitioner not challenge this rule, but it even adds that Federal Circuit cases applying this doctrine "would appear to provide adequate guidance" to the district courts. (Pet. at 5-6). Nor does petitioner contend that the Federal Circuit's holding in this case conflicts with any of this Court's precedents. Petitioner's admission that the relevant legal rule is the correct one, that Federal Circuit cases "provide adequate guidance," and the complete absence of any conflict with this Court's precedents are alone sufficient reasons to deny the Petition.

The central premise of the Petition, as set forth in petitioner's Question Presented, is that this case is somehow symptomatic of an alleged "inconsistency" in the application of the doctrine governing disclaimers of scope resulting from a patentees' arguments to the Patent and Trademark Office ("PTO"). Petitioner contends that this alleged "inconsistency" can be detected in the Federal Circuit's having "disagreed" with various district courts over the application of the rule

governing such estoppels. (Pet. at 6 and App. H). In short, petitioner sees a widespread "inconsistency" in the application of the rule simply because the Federal Circuit sometimes agrees with the district courts and sometimes does not. This is not evidence of inconsistency at the Federal Circuit. It is not even evidence of inconsistency, pure and simple. It is, at best, evidence that the court of appeals sometimes disagrees with the district court. Far from manifesting a problem that necessitates the intervention of this Court, the fact that courts of appeals correct errors at the district courts shows that the judicial system is working as it should. Moreover, the fact that the Federal Circuit sometimes agrees and sometimes disagrees with the district courts shows that the Federal Circuit has fashioned a rule of argument-based estoppel that is flexible to particular circumstances, and not the type of rigid, bright-line rule that this Court disapproved in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002) and *KSR Int'l Co. v. Teleflex*, ___ U.S. ___, 127 S. Ct. 1727 (2007).

Without any "compelling reason" for this Court to grant certiorari, petitioner is left to argue that the well-reasoned decisions of the district court and the Federal Circuit are simply wrong. Even if mere error below were enough to make a case worthy of certiorari — and it is not — petitioner does not carry even the relatively lighter burden of showing that the Federal Circuit and the district court misapplied the correct legal standard in this single case. Rather, the district court and the Federal Circuit carefully considered the prosecution history of the patent-in-suit, including the Examiner's

rejections based on the prior art, the content of the prior art references, especially those presented for the first time during reexamination; the nature of petitioner's remarks to the Examiner; and the nature of the invention itself. Following their deliberations, a combined four judges of the district court and the Federal Circuit all concluded that petitioner clearly and unequivocally disavowed claim scope, making summary judgment of non-infringement mandatory. Petitioner has presented no reason why those decisions should be reviewed, much less disturbed, by this Court.

COUNTERSTATEMENT OF THE CASE

This case arises from a claim that respondent's slot machine management systems infringe petitioner's U.S. Patent 5,283,422 (the '422 patent). The '422 patent discloses a system for applying binary identification numbers to a finite set of objects, such as casino chips, machine-reading those numbers and comparing them to a database or "look-up table" of "valid" numbers. (Pet. App. at 94a-135a). In other words, the patent discloses a system for keeping track of a finite set of numbered objects. The specification is almost exclusively devoted to a complex system that imprints along the circumference of an individual gambling chip an identifying binary number that, according to the inventors, can be read irrespective of direction and irrespective of where one starts reading the number. (Pet. App. at 116a-131a). The lead inventor's discovery of this bi-directional property of certain binary numbers is what he described in his deposition as his "eureka

moment," leading to the patent. (A1243, lines 22-25).[1] The mathematical formula upon which this numbering system rests is, according to the inventor, the "most important formula in the world," and is not his own, but was "invented by the Chinese about three and a half thousand years before Christ." (A1244, lines 17-20). As important as this Chinese formula evidently was to the inventor, it has nothing to do with the allegations of infringement in this case, which depend on a strained reading of the '422 patent's claims of such breadth as to encompass practically any known numbering system. The district court and the Federal Circuit rejected such a broad reading in light of limitations that petitioner placed on the claims during re-examination.

The '422 patent's independent claims all contain the phrase "unique authorized information," the construction of which is the only issue that petitioner seeks to bring before this Court. (Pet. at 19-27). In interpreting this phrase, the district court relied upon statements that petitioner made during re-examination of the '422 patent that clearly confined "unique authorized information" to either "serial numbers alone or randomly-selected numbers alone." (Pet. App. at 33a-35a). There was no dispute that Bally's products employed multi-part numbers, some parts of which were neither randomly-selected nor simple serial numbers. Given the undisputed facts, the district court entered summary judgment of non-infringement.

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[1] Citations to the record are given in the form specified by the rules of the court of appeals.

A panel of the United States Court of Appeals for the Federal Circuit unanimously affirmed the district court's construction of "unique authorized information," holding that petitioner's "reexamination recharacterization of [prior art] requires the construction that the '422 claims exclude information other than serial information alone or randomly-selected information alone." (Pet. App. at 11a-12a).

In a vain attempt to create the appearance of an issue worthy of this Court's attention, and in defiance of Supreme Court Rule 14(g)'s requirement of a direct and concise statement of the case, petitioner's Statement of the Case begins by characterizing a decade of judicial history relating to claim construction since this Court decided *Markman v. Westview Instruments*, 517 U.S. 370 (1996). Without citation to any authority whatsoever, petitioner asserts that, for most of that decade, the Federal Circuit issued "inconsistent competing rules and approaches to claim construction" until, in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005)(en banc), the Federal Circuit "provided a common set of guidelines for claim construction." (Pet. at 3).

Leaving aside the inaccuracies in petitioner's characterization of myriad holdings of the Federal Circuit over this extensive time period and the fact that *Phillips* was decided *before* the district court issued its claim constructions in this case, the *Phillips* court did not even purport to address the legal rule that the district court and the Federal Circuit applied in this case. In *Phillips*, the *en banc* Federal Circuit primarily concerned itself with the role that extrinsic evidence, such as dictionaries, should play in claim construction.

Phillips, 415 F.3d at 1319-1324 (criticizing *Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193 (Fed. Cir. 2002), as an example of cases "in which the court has given greater emphasis to dictionary definitions of claim terms and has assigned a less prominent role to the specification and the prosecution history").

The *Phillips* court did not alter the rule that inventors are estopped by their own express disavowals of scope made to distinguish their inventions over prior art. To the contrary, the *Phillips* court reaffirmed that, in construing patent claims, a district court *should* consult the patent's prosecution history so that the court can exclude any interpretation that was disclaimed during prosecution. *Id.* at 1317. The appeals court could hardly have held differently given this Court's precedents. *See, e.g.*, *Crawford v. Heysinger*, 123 U.S. 589, 602 (1887) ("The file-wrapper and contents in the matter of the reissue are part of the evidence in the case, and throw light upon what should be the proper construction of claims."). Moreover, even if the Federal Circuit had deviated from *Phillips* in deciding this single case, which it did not, that would not be a reason to grant certiorari.

In a further effort to fabricate arguments favoring certiorari, petitioner implies that Federal Circuit decisions since *Phillips* have somehow changed the standard applicable to argument-based prosecution history estoppel. (Pet. at 5). To bolster the erroneous implication that argument-based prosecution history estoppel might be something of the Federal Circuit's recent invention, petitioner not only mischaracterizes *Phillips* but also selectively cites only to decisions post-

dating *Phillips*. The doctrine that a disavowal of claim scope made in order to overcome prior art necessarily limits the patent's coverage consistent with the disclaimer has been the rule of law in the Federal Circuit at least since *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985) (ruling that "the prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance"). Indeed, the doctrine of argument-based prosecution history estoppel can be traced to a case that pre-dates the Federal Circuit. In *Coleco Industries, Inc. v. United States International Trade Commission*, the United States Court of Customs and Patent Appeals wrote:

> We are in the position of enunciating a rule broader than the traditional [amendment-based] "file wrapper" estoppel doctrine. A patentee having argued a narrow construction for his claims before the United States Patent and Trademark Office (PTO) should be precluded from arguing a broader construction for the purposes of infringement. We believe this to be a sound legal proposition which comports with the rationale underlying the traditional doctrine of "file wrapper" estoppel, that once a broader scope of interpretation for a claim is disclaimed by an applicant before the PTO, he is not entitled to reinstate the broader scope.

573 F.2d 1247, 1257 & n.9 (C.C.P.A. 1978) (citing *Exhibit Supply Company v. Ace Patents Corporation*, 315 U.S.

126 (1942)). Thus, for almost thirty years, this has been the settled rule of law. The *Phillips* court did not narrow or expand this time-worn rule and it is disingenuous for petitioner to imply otherwise.

A. The Parties

When petitioner commenced this suit in 2003, Bally Technologies, Inc. ("Bally") was known as Alliance Gaming Corporation.[2] Together with its subsidiary, Bally Gaming, Inc., Alliance Gaming Corporation was, as Bally remains today, a leading developer and manufacturer of equipment and technology for the gaming industry. (A1180, ¶ 2).

Leonard Storch, an inventor of the '422 patent, is the founder and president of petitioner, CIAS. Pet. at 8. Petitioner produces no marketable products. (A1247, lines, 4-6). In fact, petitioner's only employee, other than the inventor, is Mr. Storch's wife. (A1248, lines, 8-10) Other than Mr. Storch and his wife, CIAS's shareholders include Edward Cohen, who acted as CIAS's technical expert witness in this matter. (A1899-A1902).

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[2] Because of a reorganization and name change since this suit commenced, we refer to respondents collectively in this brief as "Bally."

B. Bally's Ticket-In/Ticket-Out Slot Machine Systems

Among the products that Bally manufactures are two that are at issue in this case: the Slot Data System ("SDS") and the Slot Management System ("SMS"). (Pet. App. at 23a). Both systems manage all aspects of a casino's slot machines, including accounting and other "back-of-the-house" functions. In order to allow casino patrons to enjoy "cashless" slots play, these systems include a "Ticket-in/Ticket-out" ("TITO") feature, *i.e.*, a slot machine in which a customer may insert either cash or a ticket and receive a ticket from the machine in lieu of a cash payout. (*See* Pet. App. at 23a). That ticket may then be used in any other slot machine in the casino that also has a bill validator. *Id.*

Each ticket issued by a slot machine in the SDS or SMS environments bears an identification number that the system uses to track the ticket. (Pet. App. at 24a). Naturally, when a ticket has been redeemed in SDS or SMS, the system records that fact and will not later redeem another ticket with the same identification number. SDS and SMS use somewhat different methods of assigning identification numbers to tickets, but it is undisputed that each system assigns an eighteen-digit number made up of distinct fields or parts of varying numbers of digits. (Pet. App. at 24a-25a).

Petitioner misstates the components of the SDS identification number. It is overly simplistic to say, as petitioner does, that the SDS ticket identification number is made up of a 14 digit "detectable series" and "three cycle [sic] redundancy check (CRC) digits and

one check digit." (Pet. at 14). The final four digits, in fact, are unique to Bally's system and are not a commonplace cyclic redundancy check or check digit as petitioner characterizes them, but are the product of a secret, proprietary algorithm. (Pet. App. at 25a). When appended to the other 14-digits, these four digits make a whole identification number that is not a detectable series. (Pet. App. at 51a). Petitioner does not contend otherwise.

The SMS ticket also bears an 18-digit number, 13 digits of which are also the product of a secret, proprietary algorithm. (Pet. App. at 53a; A1182). Petitioner minimizes Bally's secret algorithmically-derived numbers because the '422 patent disparages security systems that depend upon such secret algorithms. (Pet. at 10, "making it more difficult to copy . . . was not the solution").

Similarly disingenuous — and equally incredible — is petitioner's suggestion that the district court and the Federal Circuit simply "ignored" an accused system in their published decisions. (Pet. at 14, n.2). In the first place, there is no "second SMS system," as petitioner asserts, there are two modes, Secure and System modes, in which the single SMS system may operate. (A582). It is a further misstatement to claim that the "only evidence produced by respondents was that it uses an eighteen digit pseudo-random number as the identifying member." (Pet. at 14, n.2). The record contains uncontroverted evidence that SMS uses multi-part identification numbers regardless of the mode in which the it operates. (Pet. App. at 25a and note 26; *see also* A441-A442). Consequently, it is not surprising that the

district court and the Federal Circuit declined to discuss the second mode of operation separately, since it would have made no difference to the court's judgment on non-infringement.

C. Petitioner's Manifold Accusations of Infringement of the '422 Patent

In addition to this case and the lawsuit that led to re-examination of the '422 Patent (Pet. App. at 20a), CIAS has accused the United States Treasury, the United States Postal Service, and a plethora of large corporations of infringement of the '422 patent.[3] The variety of institutions and entities that stand accused by petitioner of infringing the patent-in-suit is indicative of the breadth of coverage that petitioner has attempted to secure in litigation, but to which petitioner is not entitled based on clear disclaimers of scope that it made to the PTO.

Indeed, leaving aside those disclaimers of scope, petitioner's argument, here as in the lower courts, appears to be that the '422 patentees invented "checking for duplicates." (*See* Pet. at 11). On various occasions in the prosecution history, the Examiner rejected the application that became the '422 patent as unpatentable over prior art references, mostly for obviousness. (A1353-A1354, A1378-A1380, A1382). The question of

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[3] To name only a few of CIAS's targets in addition to the United States Government (and the entire U.S. gaming industry), it has asserted infringement of the '422 patent against Intel Corporation (for its Pentium processors), Ticketmaster, and the New York City Metropolitan Transit Authority. (A1188-A1195).

patent validity was never reached by the district court because summary judgment of non-infringement was mandated. Had it been reached, however, it is evident, especially in light of this Court's recent decision in *KSR*, that the '422 patent, if broadly construed to claim systems that "check for duplicates" in a "look-up table" could not survive an obviousness analysis. Even petitioner's expert acknowledged that those skilled in the art have been using look up tables for several decades. (A1471). The decision of one skilled in the art to store a serial number in a look up table against which to check encoded objects for duplicates is the application of "known options within his or her technical grasp. . . . [and] the product not of innovation but of ordinary skill and common sense." *KSR*, 127 S. Ct. at 1742. As such, the construction that petitioner urges leads perforce to invalidity for obviousness, rendering this case even less appropriate for certiorari, if that were possible.

REASONS FOR DENYING THE PETITION

I. THE COURT OF APPEALS FOR THE FEDERAL CIRCUIT AND THE DISTRICT COURT PROPERLY CONSTRUED THE DISPUTED CLAIM TERM "UNIQUE AUTHORIZED INFORMATION."

The Federal Circuit has held that "[t]he doctrine of prosecution disclaimer is well established in Supreme Court precedent, precluding patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution." *Omega Eng'g, Inc. v. Raytek, Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003) (citing *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 220-21 (1940) ("claims allowed cannot by construction be read to cover what was thus eliminated from the patent."); *Crawford v. Heysinger*, 123 U.S. 589, 602-04 (1887); *Goodyear Dental Vulcanite Co. v. Davis*, 102 U.S. 222, 227 (1880)).[4] Such a disclaimer will occur, for example, when a patentee characterizes an aspect of his invention in a specific manner to overcome prior art. *See Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (interpreting "sending," "transmitting," and "receiving" limitations as requiring direct transmission over telephone line because, by stating that invention transmits over a standard telephone line, patentee disclaimed transmission over a packet-switched network).

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[4] The Federal Circuit might also have cited *Exhibit Supply Co. v. Ace Patents Corp.*, 315 U.S. 126 (1942) and *Computing Scale Co. of America v. Automatic Scale Co.*, 204 U.S. 609, 618-620 (1907).

As noted, petitioner agrees with the rule as enunciated by the Federal Circuit, (Pet. at 5), and only disagrees with its application to petitioner. Accordingly, petitioner makes no argument that the decisions below fail to follow this Court's precedent. Rather, petitioner seems to attempt the impossible, to create the appearance of a "split" within a single appeals court. The effort is doomed to failure.

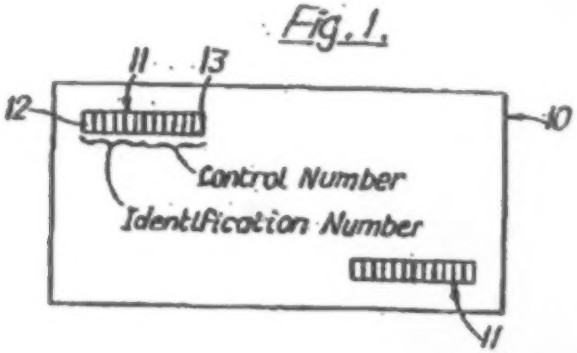
A. Claim Construction In The Courts Below

At bottom, petitioner seeks certiorari for only one reason, to get a "third bite at the apple" and, it hopes, reverse the panel's unanimous affirmance of the district court's construction of "unique authorized information." As this Court's rules and historical practice make clear, the Court does not routinely accept appeals of patentees who are merely disappointed in the claim construction decisions below. Even if it were this Court's role to micromanage such rulings, there is no error in the claim construction in this case that is in need of correction.

Petitioner challenges the district court's construction of "unique authorized information," a term that is nowhere defined in the specification. The phrase is, nevertheless, an express limitation upon each of the independent claims of the '422 patent asserted in the district court. Both the district court and the court of appeals held that "unique authorized information" must be limited to "serial information alone or randomly-selected information alone" based upon the fact that petitioner used *exactly* these words in arguments it made to the PTO distinguishing its invention over the prior art. (Pet. App. at 64a-65a).

In 1999, during discovery in a separate infringement lawsuit, petitioner requested reexamination of the '422 patent, citing for the first time United States Patent No. 3,833,795 to Shoshani, et al., as a prior art reference that gave rise to a substantial new question of patentability. (Pet. App. at 61a; 140a-145a). In order to overcome this prior art, petitioner expressly distinguished Shoshani before the PTO on the basis that Shoshani "teaches the use of a pair of numbers, and **not either serial numbers alone or randomly-selected numbers alone**." (64a)(emphasis added). It is not disputed that these statements by the patent holder were intended to distinguish the system disclosed in the '422 patent from the Shoshani invention. In other words, they were intended to describe and did describe the '422 patent.

Shoshani discloses a counterfeit detection system in which objects are marked with an "associated pair of numbers" comprised of "a serially selected identification number **12**" and a randomly selected "control number **13**" (143a, Col. 2, lines 23-33). Figure 1 of Shoshani shows a single symbol **11** (*i.e.*, a bar code) that is encoded on an object:



(141a). The single bar code depicted in Figure 1 combines the two data fields, **12** and **13**, as described in Shoshani's specification. (143a, Col. 2, lines 23-27).

Petitioner now characterizes its statements before the PTO, including the statement that Shoshani "teaches the use of a pair of numbers, and not either serial numbers **alone** or randomly-selected numbers **alone**" (64a)(emphasis added), as merely descriptive of Shoshani and not intended to forfeit claim scope. (*See* Pet. at 21). It is unremarkable that a patentee's litigation position differs materially from the description given to the PTO at a time when its sole objective was to survive a re-examination. Whether petitioner's litigation-inspired arguments successfully distinguish Shoshani is now beside the point, however. As the district court observed,

> the issue is not whether the '422 patent should have issued over Shoshani on re-examination, but rather whether the inventors disclaimed multi-part numbers from their patent. Other possible differences between the '422 patent and Shoshani that were not discussed by the inventors at that time are therefore of no present moment.

(Pet. App. at 34a-35a). Petitioner told the Examiner that "Shoshani et al., teaches away from the use of serial numbers alone, stating that '...the use of serial numbers [alone] does not inhibit counterfeiting...." (Pet. App. at 63a)(ellipses and brackets are petitioner's). Thus, petitioner not only distinguished Shoshani as teaching away from the use of "serial numbers alone" but inserted the additional word "alone," in brackets, into the quotation from Shoshani to emphasize its point.

CIAS further emphasized this distinction in its Patent Owner's Statement by again inserting the word "alone" in a quotation from Shoshani: "Like McNeight et al., Shoshani recognizes that '...use of serial numbers [alone] does not inhibit counterfeiting...'." (Pet. App. at 73a)(ellipses and brackets by CIAS). Indeed, the Federal Circuit remarked on the district court's conclusion that petitioner "emphasized" the distinction between the '422 patent and Shoshani's multi-part numbers. (Pet. App. at 12a). It entails neither inference nor implication to hold that by repeatedly describing its invention as distinguishable on the basis of using serial numbers "alone," petitioner relinquished from claim scope the use of serial numbers and algorithmically-generated numbers together, as in Bally's systems and Shoshani.

It does not matter that CIAS did not expressly state to the examiner: "We are relinquishing claim scope." The words that petitioner used to distinguish Shoshani during re-examination, as they appear in the prosecution history, are what is important, not petitioner's later attempts, as a plaintiff in federal court, to distinguish Shoshani on other grounds. *See Astrazeneca AB v. Mutual Pharma. Co.*, 384 F.3d 1333, 1339 (Fed. Cir. 2004) ("rigid formalism is not required" to redefine claim terms); *see also Ekchian v. Home Depot, Inc.*, 104 F.3d 1299, 1304 (Fed.Cir.1997) ("[B]y distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover, he is by implication surrendering such protection."); *Southwall Technologies, Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576-77 (Fed. Cir. 1995).

Shortly after the parties argued this case before the Federal Circuit, that court reaffirmed this understanding of the rule of argument-based prosecution history estoppel, holding that arguments made during prosecution to distinguish prior art were clearly "suggesting that all claims were limited." *PODS, Inc. v. Porta-Stor, Inc.*, 484 F.3d 1359, 1266-67 (Fed. Cir.) (citing *Southwall*, 54 F.3d at 1579 for the proposition that "[A]rguments made during prosecution regarding the meaning of a claim term are relevant to the interpretation of that term in every claim of the patent absent a clear indication to the contrary."), *cert. denied*, 550 U.S. __, 128 S. Ct. 618 (2007).

B. Argument-Based Estoppel Applies Regardless of Petitioner's Subjective Purpose In Making The Argument.

The time-worn test enunciated by the Federal Circuit, to which petitioner raises no objection, is an objective one. The district court and the Federal Circuit correctly evaluated petitioner's disclaimer in this case from the point of view of "what a competitor, reading the prosecution history, would reasonably conclude was given up by the applicant." *See Insituform Techs., Inc. v. Cat Contracting, Inc.*, 99 F.3d 1098, 1107-08 (Fed. Cir. 1996); *see also Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1457 (Fed. Cir. 1998) (en banc) (an objective test is applied, inquiring "whether a competitor would reasonably believe that the applicant had surrendered the relevant subject matter"). As this Court has held, an inventor is obliged to "inform the public during the life of the patent of the limits of the monopoly asserted, so that it may be known which features may be safely

used or manufactured without a license and which may not." *General Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 369 (1938). It is this principle that animates the rule that one is held to the statements that are found in the intrinsic record of the patent's history. *See Southwall*, 54 F.3d at 1576; *see also Hoganas AB v. Dresser Indus.*, 9 F.3d 948, 951 (Fed. Cir. 1993) (function of claims is "putting competitors on notice of the scope of the claimed invention").[5]

During re-examination, petitioner made abundantly clear to the PTO (and, by extension, to those subsequently examining the prosecution history) that the '422 patent, unlike Shoshani's paired numbers, covers only "authorized information" that is either serially-numbered *alone* or randomly-selected *alone*. Where, as here, "the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender." *Omega Eng'g*, 334 F.3d at 1324. Petitioner has repeated its argument that it did not

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[5] Nor does it matter whether the patent examiner actually relied on petitioner's statements as a disclaimer. "[A] patentee's statements during prosecution, whether relied on by the examiner or not, are relevant to claim interpretation." *Microsoft Corp. v. Multi-Tech Systems, Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004), *citing Laitram Corp. v. Morehouse Industries, Inc.*, 143 F.3d 1456, 1462 (Fed. Cir. 1998) ("The fact that an examiner placed no reliance on an applicant's statement distinguishing prior art does not mean that the statement is inconsequential for purposes of claim construction."). *See also E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1438 (Fed. Cir. 1988) ("Regardless of the examiner's motives, arguments made during prosecution shed light on what the applicant meant by its various terms.").

intend to disclaim scope and failed to convince either the district court or the court of appeals. Both courts recognize that the function of the prosecution history is not to document subjective intent, "but as an official record that is created in the knowledge that its audience is not only the patent examining officials and the applicant, but the interested public." *Biogen, Inc. v. Berlex Labs., Inc.*, 318 F.3d 1132, 1139 (Fed. Cir. 2003).

Moreover, the intentional insertion by CIAS of the word "[alone]" into otherwise direct quotes from Shoshani (Pet. App. at 63a; 73a) serves to confirm that the disclaimer of scope was not accidental or unintentional. Even if it had been a mistake, however, it would have been petitioner's responsibility to seek to amend the file to correct any such mistaken disclaimer of coverage, "as the applicant is the party in the best position to do so." *Springs Window Fashions LP v. Novo Industries, L.P.*, 323 F.3d 989, 995 (Fed. Cir. 2003). CIAS made no such attempt to clarify the record before the PTO, leading to the conclusion that petitioner is now attempting to avoid a limitation on claim scope that it knowingly made to distinguish Shoshani's multi-part numbers.

C. The Specification Cannot Negate Petitioner's Subsequent Disclaimers of Scope.

Petitioner also asserts that the Federal Circuit failed to follow the specification and that somehow did violence to the *Phillips* decision. (Pet. at 22). For example, petitioner argues that it could not have disclaimed multi-part numbers because the specification mentions the use of check digits. (Pet. at 23). First of all, this is a mischaracterization of the specification. None of petitioner's references to the specification says anything about "error check digits" being part of the code appearing on the objects in the '422 system. To the contrary, the specification says that the codes shown in Figs. 22, 22A, 23 and 24 could be used *with* a "parity check," if the user selects "only those [codes] with an even or odd number of logical ones." (Pet. App. at 133a, Col. 46, lines 40-45). The specification does not say that any extra "digit" is encoded on the object. The specification merely says that, if "only even" or "only odd" numbers are chosen, it would apparently be a simple matter to check for parity errors mathematically. Regardless whether that is accurate, it is a far cry from a statement incorporating "multi-part" numbers.

More fundamentally, and much more to the point in this case, even if the specification provided clear support for petitioner's position — which it doesn't — petitioner's disclaimers before the PTO on re-examination, many years after the specification was written, would still constitute abandonment of claim scope *even if directly contrary positions appeared in the specification.* The *Phillips* court said nothing that would change the effect of subsequent disclaimers that conflict with the specification.

Petitioner's reliance upon *Ventana Medical Systems v. Biogenix Laboratories* for the proposition that the patentee does not disclaim what appears in the specification is misplaced. 473 F.3d 1173 (Fed. Cir. 2006). *Ventana* stands for the proposition that the doctrine of prosecution disclaimer generally does not apply to a claim term in a descendant patent that uses different language than the claim term discussed in an earlier dialogue with the PTO concerning a wholly *different* claim. 473 F.3d at 1182 (citing *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1078 (Fed. Cir.2005) ("[T]he prosecution of one claim term in a parent application will generally not limit different claim language in a continuation application.")). That proposition of law is unhelpful to petitioner, because the Federal Circuit here held that petitioner's *later* statements to the PTO, during the re-examination, constituted disclaimers of scope, no matter what could be found in the specification. (Pet. App. at 12a). If petitioner were correct in its reading of *Ventana*, no statement made during re-examination, no matter how absolute and unequivocal, could have the effect of disclaiming any claim scope that was arguably found in the specification. Such a reading would completely eviscerate the rule of argument-based prosecution history estoppel.

The real reason that petitioner points to the specification is that, with the benefit of hindsight and the motivation of a potentially large damage award, petitioner advanced in litigation an alternative basis to distinguish Shoshani that is not what it said to the PTO. In support, petitioner argues that it was both unnecessary and incorrect to describe Shoshani as it did.

Others have argued unsuccessfully that disclaimers made during prosecution should not estop them from enforcing a broad claim construction because the statements were, according to them, "unnecessary" to distinguish the prior art reference in question. Recently, the Federal Circuit again soundly rejected this argument, reiterating that "'[c]lear assertions made during prosecution in support of patentability, whether or not actually required to secure allowance of the claim, may also create an estoppel'" *PODS, Inc.* 484 F.3d 1359, 1368 (quoting *Southwall*, 54 F.3d at 1583). As the *PODS* court repeated "[t]he relevant inquiry is whether a competitor would reasonably believe that the applicant had surrendered the relevant subject matter." *Id.* (citations and quotations omitted). This case is simply another example in which the patentee tells one story to the PTO, then attempts to relate quite another story in litigation.

D. The Initial Prosecution History Bolsters The District Court's Construction.

As discussed above, regardless of what the specification says, petitioner's later disclaimers to the PTO govern the scope of the claims, if there is any obvious disagreement between the two. The same would logically apply to the history of the original prosecution. Nevertheless, petitioner struggles to create the impression that the initial prosecution history is somehow at odds with the disclaimers made on re-examination. Those efforts are, on cursory inspection, fruitless. The disclaimers made in re-examination are perfectly in accord with the initial prosecution history.

For example, petitioner argues that it could not have meant to limit claim scope to "serial numbers alone," because the McNeight reference, U.S. Patent No. 4,463,250, which it cited in the initial prosecution, discloses the use of "authorized serial numbers." (Pet. at 21). When, during prosecution, the patentees needed to overcome rejections based upon McNeight, however, they said something quite different to the Examiner. The patentees distinguished the '422 system from McNeight's "secret algorithm system" (Pet. App. at 87a.) on the basis that the '422 patent's authorized information "coded according to a detectable series" was "not generated by an algorithm." (Pet. App. at 86a). Indeed, the patentees disparaged McNeight before the Examiner as reliant upon "keeping the algorithm secret." *Id.* In other words, the '422 patent's coding/decoding system employs a detectable series of numbers, *without the inclusion of numbers generated by any secret formula*. Similarly, the patentees expressly stated to the PTO that: "McNeight et al.'s authorized numbers conform to a secret algorithm and are different from randomly selected information." (Response to First Office Action, A1363-A1364) In other words, the '422 patent's coding/decoding system employs randomly-selected numbers, *without the inclusion of numbers generated by any secret formula*. By distinguishing McNeight in this fashion, petitioner essentially described the '422 patent as disclosing the use of "serial numbers alone or randomly-selected numbers alone."[6]

[6] While McNeight detects spurious objects by testing the numbers against the secret algorithm, it has long been known in the art that one can substitute a database or look-up table, as the '422 patent teaches, for algorithmic conformance testing, as

(Cont'd)

In the counterfeit detection system of the '422 patent, unlike the system used by Bally, security "does not reside in secrecy of the manner of coding and decoding." (Pet. App. at 118a, Col. 15, lines 53-63). By thus distinguishing McNeight on the basis that it "teaches use of an algorithm to generate the authorized serial numbers," (Pet. App. at 89a), the patentees described their system in an entirely consistent manner with the later disclaimers made during re-examination to the effect that the '422 patent uses "serial numbers alone or randomly-selected numbers alone." As far as petitioner was concerned, its abandonment during re-examination of multi-part numbers involving complex algorithms, such as Bally employs, meant giving up nothing essential to the operation of the '422 patent's system.

Although not explicitly mentioned by the Federal Circuit, the record contains further support for the district court's construction of the term "unique authorized information." That support is found in another statement that the patentees made before the PTO during the initial prosecution. Among the prior art references listed in the '422 patent (Pet. App. at 95a), the inventors cited a Massachusetts Lottery "Invitation

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(Cont'd)
memory capacity becomes increasingly economical in comparison to computational power. (A1434, A1471). According to the patentee, as stated in a related patent, the problem with McNeight's secret algorithm derives from McNeight's reliance on a formula that can be stolen, and not from McNeight's choice, on presentation of a ticket or object for verification, to test for conformity to the algorithm rather than simply checking the identification number against a look-up table. (A739, Col. 10, lines 63-65).

for Bid" ("Massachusetts Lottery IFB"), which, while not a patented invention, contains a detailed description of a system for storing and checking the validity of winning lottery tickets. In distinguishing the '422 patent from the Massachusetts Lottery IFB publication, the patentees told the PTO that because the Massachusetts Lottery IFB stored and checked only "winning" numbers resulting from a random drawing, the resulting computer file of winning tickets would contain ticket serial numbers having a random relationship to each other. (A1343; *see also* A1372-A1376). This, the patentees argued distinguished the Massachusetts Lottery IFB's system from the '422 patent which, by contrast, always stored a "detectable series" of numbers, meaning — according to the inventors' statements — numbers that have a discernible relationship to each other. (A1343). The 18-digit numbers created by Bally's SDS system, which was accused of infringing the claimed "detectable series" limitation, lack any detectable or discernible relationship to each other because each employs a proprietary "secret" algorithm to ensure security. Thus, the resulting identification numbers in the SDS database of stored numbers, like the winning Massachusetts Lottery tickets, must contain numbers that bear no discernible relationship one to another. The description that the inventors gave to distinguish the Massachusetts Lottery IFB system lends further weight to the district court's construction of "unique authorized information" because it strongly suggests that the patentees envisioned a system, according to claim 1, that stored "serial numbers alone," which would have a discernible relationship to each other that multi-part numbers would not have.

II. THE DISTRICT COURT'S GRANT OF SUMMARY JUDGMENT OF NON-INFRINGEMENT SHOULD NOT BE DISTURBED.

Given the district court's correct construction of "unique authorized information," there was no genuine issue of material fact that Bally's systems did not meet that limitation literally, mandating summary judgment of non-infringement. The ultimate burden to prove infringement in the district court rested upon petitioner CIAS. *See Novartis Corp. v. Ben Venue Labs., Inc.*, 271 F.3d 1043, 1046 (Fed. Cir. 2001) ("accused infringer seeking summary judgment of noninfringement may meet its initial responsibility . . . by showing that the evidence on file fails to establish a material issue of fact essential to the patentee's case.") The district court and the Federal Circuit concluded that petitioner did not meet that burden and also agreed that petitioner's statements to the PTO estopped it from asserting infringement under the doctrine of equivalents. (Pet. App. at 15a-16a; 49a-50a). Petitioner's argument that it did not intend to surrender subject matter by those statements is, for the reasons expounded above, irrelevant to the argument-based estoppel that it created by those statements. The effect of the estoppel is that petitioner cannot now argue that "unique authorized information" encompasses more than "serial information alone" or "randomly selected information alone" because petitioner disavowed any other interpretation during the reexamination. The district court's judgment of non-infringement, as affirmed by the court of appeals, should stand.

CONCLUSION

Because petitioner presents no compelling reason to hear this case, Bally respectfully asks this Court to deny the petition for a writ of certiorari.

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In The
Supreme Court of the United States

CIAS INC.,

Petitioner,

v.

ALLIANCE GAMING CORPORATION AND BALLY GAMING, INC.,

Respondents.

On Petition for Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITIONER'S REPLY BRIEF

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CORPORATE DISCLOSURE STATEMENT

There are no parent corporations or publicly held companies that hold 10% or more of CIAS Inc's stock.

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INTRODUCTION

Bally's opposition brief demonstrates the problem with the Federal Circuit's application of its own rules concerning prosecution history disclaimer. That application appears to be so "flexible" (Opp. Br. at 2) that even Bally perceives it may be influenced by irrelevant arguments leading to a result-oriented analysis.

ARGUMENT

I. BALLY'S OPPOSITION BRIEF DEMONSTRATES THE PROBLEM THIS COURT SHOULD RESOLVE

Bally's opposition brief dismisses the unpredictability of rulings with respect to prosecution history statements as being nothing more than the Federal Circuit Court of Appeals sometimes agreeing with the District Courts and sometimes not. (Opp. Br. at 1-2.) But "disagreement" in a majority of the cases since *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*) that have dealt with the issue is indicative of something far more serious. (91a-93a.) While some flexibility (Opp. Br. at 2) may be desired, prosecution history disclaimer is an issue in which the District Court and the Federal Circuit are applying the same rules to an unchanging written, public record. Desirable flexibility should not result in disagreement in a majority of cases.

Bally's brief suggests what Bally itself perceives this flexibility to mean – going beyond the merits of the particular prosecution history statements at issue

to enable a result-oriented analysis. Thus, just as it did in the District Court and in the Federal Circuit, Bally in effect suggests that this Court should rule against CIAS for reasons totally unrelated to the prosecution history statements at issue, but plainly intended to color the Court's view of CIAS and incline it toward ruling against CIAS.

Bally presents a parade of horrors, positing suits by CIAS against others, including "the entire U.S. gaming industry" if the Court should rule in CIAS' favor. (Opp. Br. at 11, n3). Bally neglects to tell the Court that prior to this suit, Bally proposed that Bally itself might acquire rights in the CIAS patent for purposes of asserting it against others in the U.S. gaming industry. That CIAS may have infringement claims against others is irrelevant to the question of whether or not it made a disclaimer of claim scope during prosecution. But Bally certainly believes that this will have some influence in the application of a "flexible" test to the written record.

Likewise, Bally tells the Court that the CIAS patent claims should be held invalid for obviousness under 35 U.S.C. § 103 and *KSR Int'l Co. v. Teleflex*, 127 S.Ct. 1727 (2007). Yet there was nothing obvious about the patent's claims when the United States Patent and Trademark Office held the patent claims patentable after reexamination. And others in the gaming industry have acknowledged that the very profitable Ticket In Ticket Out system could only be a long sought dream until the counterfeiting problem was solved – a solution provided by the CIAS patented system. (158a at col. 2, lines 7-17.) Bally's assertion of obviousness should, as a matter of relevancy, have

no bearing on the determination of the prosecution history disclaimer issue presented. Yet Bally here, as it did below, apparently expects that it will.

Finally, Bally tells this Court that CIAS "produces no marketable products" and that the inventor, Mr. Storch and his wife are its only employees. (Opp. Br. at 8.) Bally would ignore the fact that Mr. Storch is the inventor on 17 patents and that CIAS has developed gaming products. Bally also would ignore the fact that it is infringers such as Bally that keep individual inventors and small companies such as CIAS from achieving the benefits of their inventive efforts. Bally disparages Mr. Storch and CIAS obviously expecting that the disparagement will influence the courts in applying a "flexible" test for prosecution history disclaimer.

II. THE RELEVANT ANALYSIS

Bally's SMS and SDS identifying numbers, although generated from other numbers, ***are treated in its counterfeit detection systems as a single unique number***. (Pet. at 13-14.) That is unlike the Shoshani patent in which, although printed together, an identification number and a control number are always treated in the system as two separate numbers. (Pet. at 21-22.) As set out in CIAS' petition, that was what CIAS correctly described in the reexamination when discussing Shoshani and when it used the word "alone." If there was any disclaimer, it was a disclaimer of using two numbers separately. (Pet. at 21.)

As for Bally's arguments about the McNeight patent, they stretch to convert CIAS' statements about "secret algorithms" into statements about multipart numbers. (Opp. Br. at 24.) CIAS explained those statements at footnote 4 of its opening brief.[1]

Finally, Bally tries to resurrect an argument about CIAS' prosecution statements concerning the Massachusetts lottery system. Neither the District Court nor the Federal Circuit gave any credence to this argument. Indeed, while the argument is difficult to parse, at bottom it also makes no sense. Bally appears to be saying that CIAS disclaimed random numbers, when the '422 patent claims 13 and 14 at issue expressly include random numbers.

CONCLUSION

Bally's opposition brief is important for what it demonstrates about Bally's own view of the lower courts' application of the test for prosecution history disclaimer. While the test is straightforward and applied to a public, written record, Bally believes it to be sufficiently "flexible" in practice as to accommodate Bally's irrelevant arguments – in short, to be applied in a result-oriented manner, such that an implication becomes a narrowing claim limitation.

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[1] Bally's discussion of the patent's disclosure of a particular numbering system is equally unavailing. The '422 patent describes several inventions; the chip numbering system is one, the counterfeit detection system is another. It is the latter which is claimed.

Whatever the reasons for the excessive "disagreement" of the Federal Circuit with the District Courts, this case presents the opportunity for this Court to ensure by its oversight that a straightforward test is straightforwardly applied. Absent such oversight, the public, patent owners and accused infringers will continue to be at sea in assessing the effect of particular prosecution history statements in determining the meaning of claim terms.

For the reasons stated, the petition for a writ of certiorari should be granted.

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